

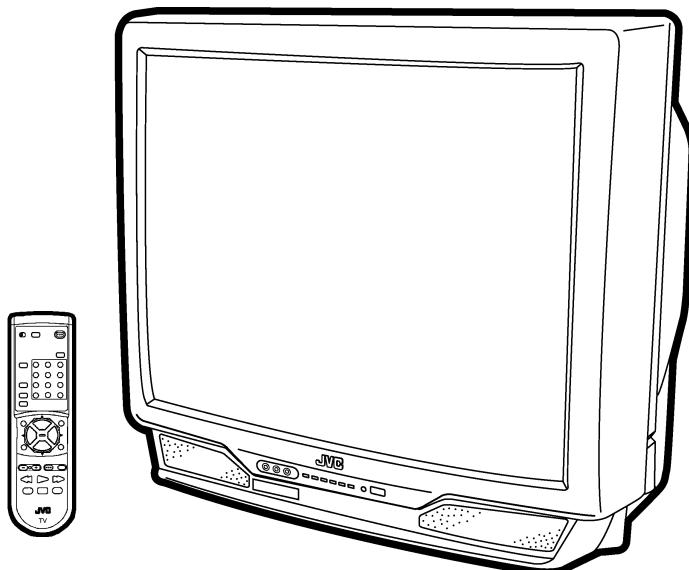
JVC

SERVICE MANUAL

COLOR TELEVISION

AV-32220_G
AV-32220_H
AV-32220_M

BASIC CHASSIS
GF3



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SPECIFICATIONS

Items	Contents
Dimensions (W × H × D)	30-1/4" × 26-1/4" × 21-1/2" inch / (768mm × 667mm × 547mm)
Mass	112.2lbs (51.0kg)
TV System and Color system	
TV RF System	CCIR(M)
Color System	NTSC
Sound System	BTSC (Multi Channel Sound)
TV Receiving Channels and Frequency	
VL Band	(02~06) 54MHz~88MHz
VH Band	(07~13) 174MHz~216MHz
UHF Band	(14~69) 470MHz~806MHz
CATV Receiving Channels and Frequency	
Low Band	(02~06, A-8) by (02~06&01)
High Band	(07~13) by (07~13)
Mid Band	(A~1) by (14~22)
Super Band	(J~W) by (23~36)
Hyper Band	(W+1~W+28) by (37~64)
Ultra Band	(W+29~W+84) by (65~125)
Sub Mid Band	(A8, A4~A1) by (01, 96~99)
	(54MHz ~804MHz)
TV/CATV Total Channel	180 Channels
Intermediate Frequency	
Video IF Carrier	45.75 MHz
Sound IF Carrier	41.25 MHz (4.5MHz)
Color Sub Carrier	3.58 MHz
Power Input	120V AC, 60Hz
Power Consumption	125W / 1.8A
Picture Tube	32" (80cm) measured diagonally, Full Square
High Voltage	31.0kV±1.3kV (at zero beam current)
Speaker	2" × 4-3/4" / 5 × 12cm Oblong type × 2
Audio Power Output	3W+3W
INPUT	
S-Video	Y : 1Vp-p positive (negative sync provided, when terminated with 75Ω) C : 0.286Vp-p (burst signal, when terminated with 75Ω)
Video	1Vp-p 75Ω (RCA pin jack)
Audio	500mVrms (-4dBs), High Impedance (RCA pin jack)
Audio Output (Variable / Fix : Selectable)	Variable : More then 0~1550mVrms (+6dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack) Fix : 500mVrms(-4dBs) Low Impedance (400Hz when modulated 100%) (RCA pin jack)
AV Compu link EX Input	3.5mm mini jack
Antenna terminal	75Ω (VHF/UHF) Terminal, F-Type Connector
Remote Control Unit	RM-C306-1A (AA/R6/UM-3 battery × 2)

Design & specifications are subject to change without notice.

SAFETY PRECAUTIONS

- The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (Δ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- Use isolation transformer when hot chassis.**
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
- Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND, the ISOLATED(NEUTRAL) : (△) side GND and EARTH : (⊕) side GND. Don't short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND and never measure with a measuring apparatus (oscilloscope etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND or EARTH side GND at the same time.
If above note will not be kept, a fuse or any parts will be broken.
- If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a $10k\Omega$ 2W resistor to the anode button.
- When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

10. Isolation Check

(Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screwheads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

(1) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 1100V AC (r.m.s.) for a period of one second.

(. . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

(2) Leakage Current Check

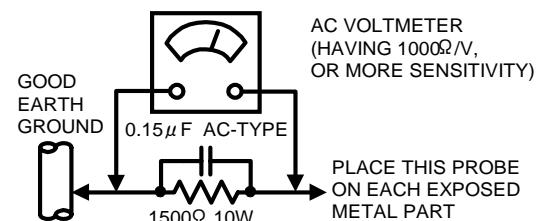
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

● Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 ohms per volt or more sensitivity in the following manner. Connect a 1500Ω 10W resistor paralleled by a $0.15\mu F$ AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



11. High voltage hold down circuit check.

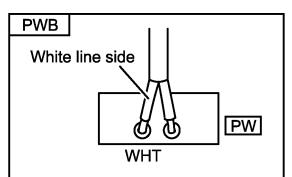
After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly.

See item "How to check the high voltage hold down circuit".

This mark shows a fast operating fuse, the letters indicated below show the rating.



POWER CORD REPLACEMENT WARNING.
Connecting the white line side of power cord to "WHT" character side.



FEATURES

- New chassis design enables use of a main board with simplified circuitry.
- Digital comb filter Improved picture quality.
- Full-square CRT (cathode ray tube) reproduces fine textured picture in every detail.
- Closed-caption broadcasts can be viewed.
- With AUDIO. VIDEO INPUT terminal.
- I²C bus control utilizes single chip ICs.
- S-VIDEO input terminal for taking best advantage of Super VHS.
- Variable / Fix audio output terminal.
- With AV COMPU LINK EX terminal.

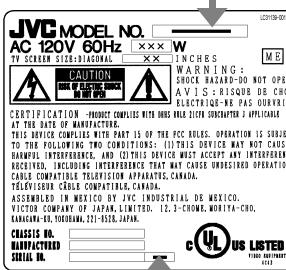
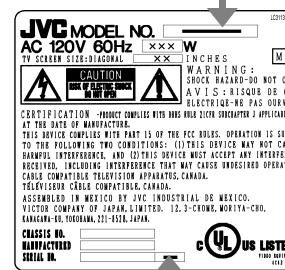
MAIN DIFFERENCE LIST

⚠	Model Part name	AV-32220/G	AV-32220/H	AV-32220/M
⚠	MAIN PWB	SGF-1017A-M2	SGF-1002A-M2	SGF-1003A-M2
⚠	PICTURE TUBE	A80QCF240X14L	A80LJF30X08(G)	M80JUA061X06
⚠	DEG.COIL	QQW0086-001	CELD066-002JA	←

HOW TO IDENTIFY MODELS

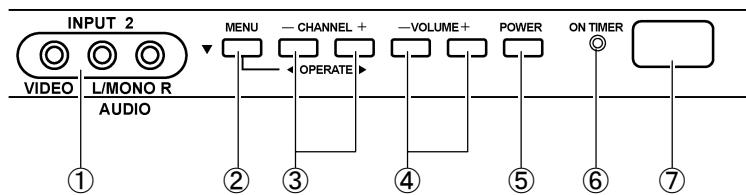
The difference between AV-32220/G, AV-32220/H and AV-32220/M is in the PICTURE TUBE.

As the result of the difference in PICTURE TUBE, the MAIN PWB also differ.

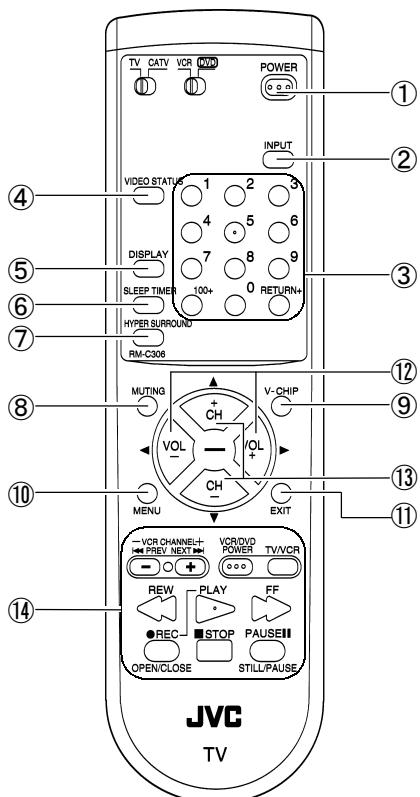
⚠	MODEL Parts name	AV-32220/G	AV-32220/H	AV-32220/M
⚠	RATING LABEL	LC31139-001A-A INDICATED AV-32220  INDICATED "G"	← INDICATED AV-32220  INDICATED "H"	← INDICATED AV-32220  INDICATED "M"

FUNCTIONS

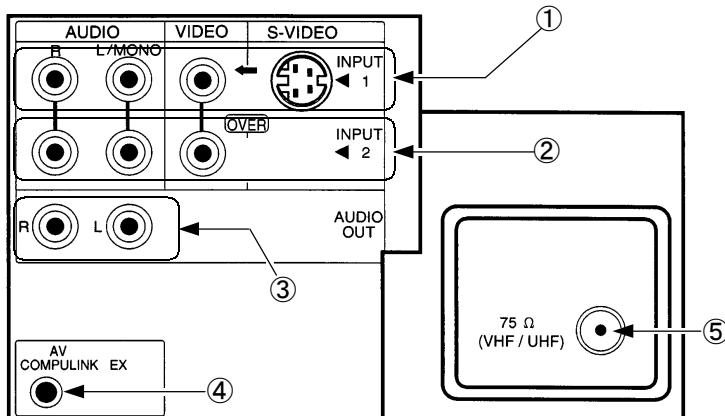
FRONT PANEL



REMOTE CONTROL UNIT



REAR PANEL



SPECIFIC SERVICE INSTRUCTIONS

DISASSEMBLY PROCEDURE

REMOVING THE REAR COVER

- Unplug the power supply cord.

1. Remove the 11 screws marked **(A)** as shown in Fig.2.
2. Remove the rear cover toward you.

* When reinstalling the rear cover, carefully push it inward after inserting the chassis into the rear cover groove.

REMOVING THE CHASSIS

- After removing the rear cover.

1. Slightly raise the both sides of the chassis by hand and remove the 2 claws under the both sides of the chassis from the front cabinet.
2. Draw the chassis backward along the rail in the arrow direction marked **(B)** as shown in the Fig.2.
(If necessary, take off the wire clamp, connector's etc.)

* When conducting a check with power supplied, be sure to confirm that the CRT earth wire is connected to the CRT SOCKET PWB and the MAIN PWB.

REMOVING THE TERMINAL BOARD

- After removing the rear cover.

1. Remove the 3 screws marked **(C)** as shown in Fig.2.
2. After removing the claw marked **(D)** in the direction of arrow mark as shown in Fig.1.
3. When you pull out the TERMINAL BOARD in the direction of arrow marked **(F)** as shown in Fig.1, it can be removed.

REMOVING THE FRONT CONTROL PW BOARD

- After removing the rear cover and chassis.

1. Remove the 2 screws marked **(D)** as shown in Fig.2.
2. Then remove the FRONT CONTROL PWB.

REMOVING THE SPEAKER

- After removing the rear cover and chassis.

1. Remove the 2 screws marked **(D)** as shown in Fig.2.
2. Follow the same steps when removing the other hand speaker.

CHECKING THE MAIN PW BOARD

1. To check the backside of the MAIN PW Board.

- (1) Pull out the chassis. (Refer to REMOVING THE CHASSIS).
- (2) Erect the chassis vertically so that you can easily check the backside of the MAIN PW Board.

[CAUTION]

- When erecting the chassis, be careful so that there will be no contacting with other PWB.
- Before turning on power, make sure that the CRT earth wire and other connectors are properly connected.

WIRE CLAMPING AND CABLE TYING

1. Be sure to clamp the wire.
2. Never remove the cable tie used for tying the wires together.
Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

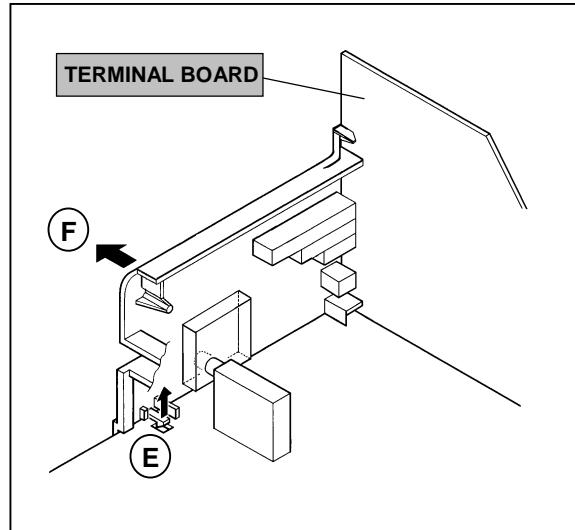


Fig. 1

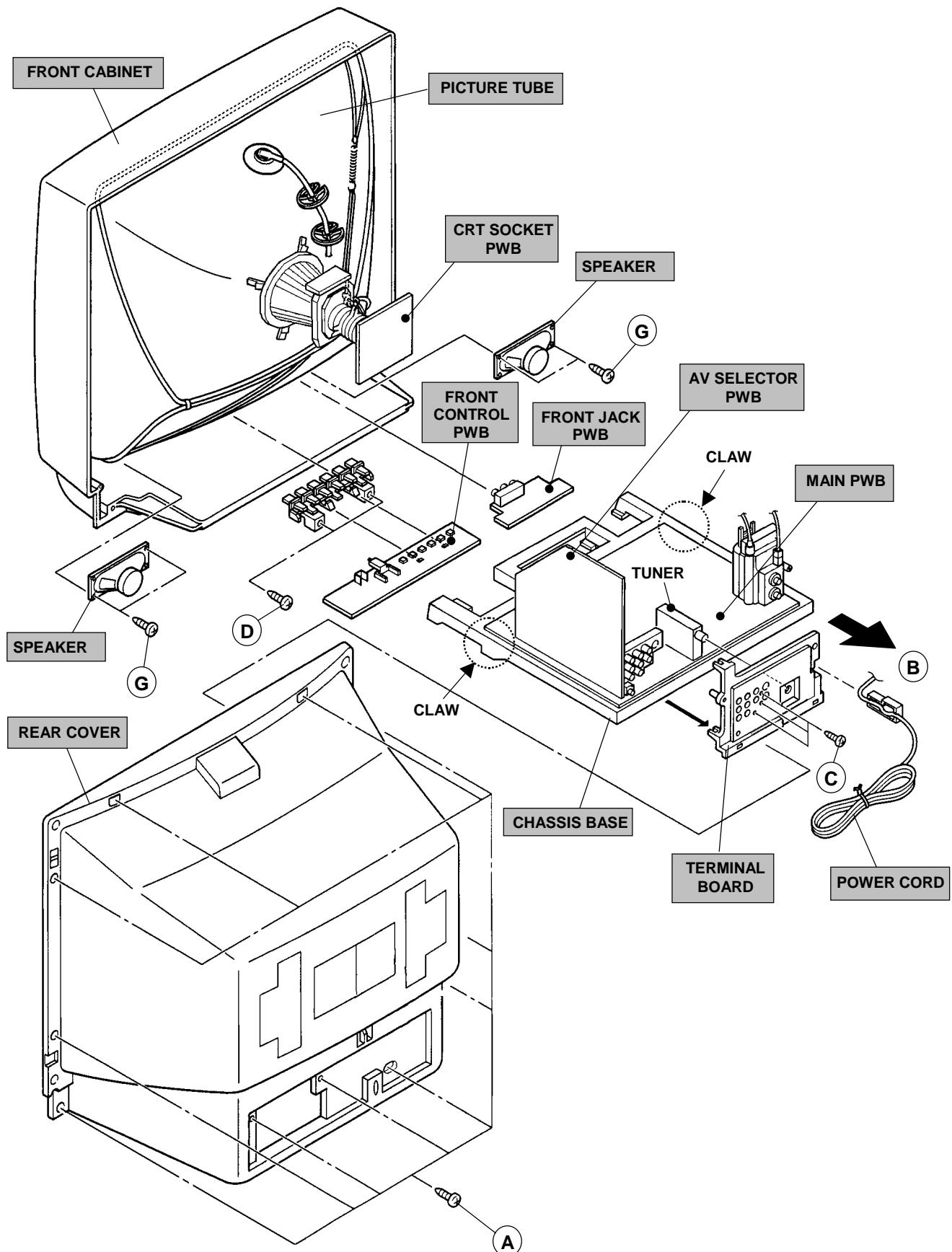


Fig.2

REMOVING THE CRT

- * Replacement of the CRT should be performed by 2 or more persons.
- After removing the rear cover, chassis etc.,
- 1. Putting the CRT change table on soft cloth, the CRT change table should also be covered with such soft cloth (shown in Fig.3).
- 2. While keeping the surface of CRT down, mount the TV set on the CRT change table balanced will as shown in Fig.4.
- 3. Remove 4 screws marked by arrows with a box type screwdriver as shown in Fig.4.
- Since the cabinet will drop when screws have been removed, be sure to support the cabinet with hands.
- 4. After 4 screws have been removed, put the cabinet slowly on cloth (At this time, be carefully so as not to damage the front surface of the cabinet) shown in Fig.5.
- The CRT should be assembled according to the opposite sequence of its dismantling steps.
- * The CRT change table should preferably be smaller than the CRT surface, and its height be about 35cm.

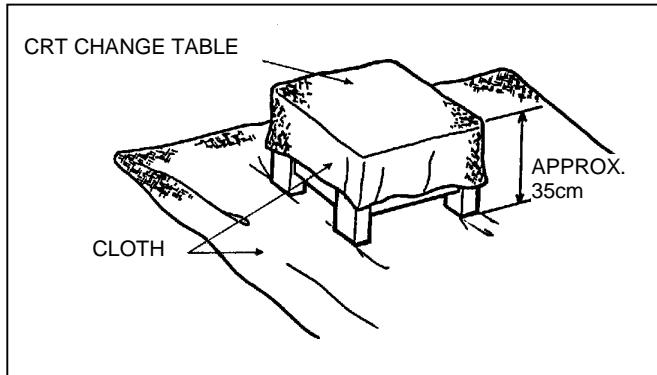


Fig. 3

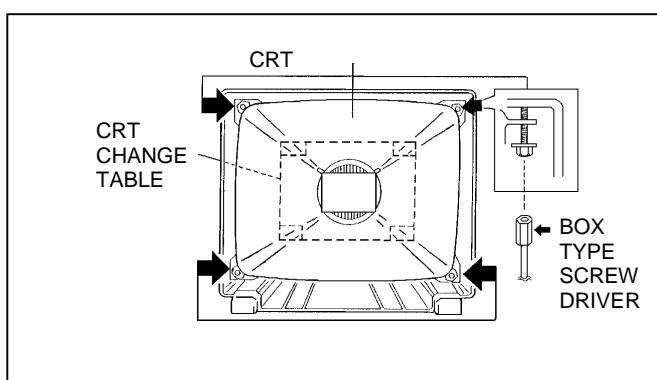


Fig. 4

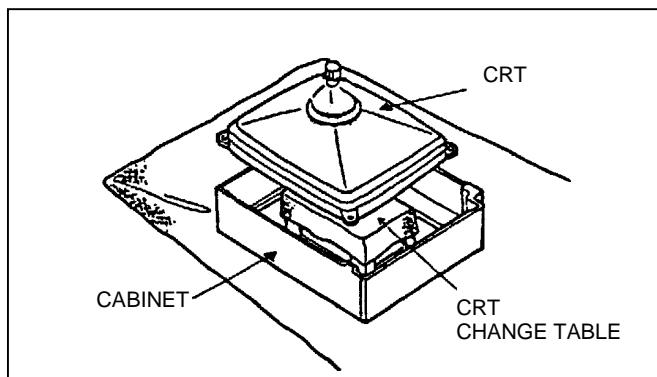


Fig. 5

COATING OF SILICON GREASE FOR ELECTRICAL INSULATION ON THE CRT ANODE CAP SECTION.

- Subsequent to replacement of the CRT and HV transformer or repair of the anode cap, etc. by dismantling them, be sure to coat silicon grease for electrical insulation as shown in Fig.6. Wipe around the anode button with clean and dry cloth. (Fig.6) Coat silicon grease on the section around the anode button. At this time, take care so that any silicon greases dose not sticks to the anode button. (Fig.7)

★ Silicon grease product No. KS - 650N

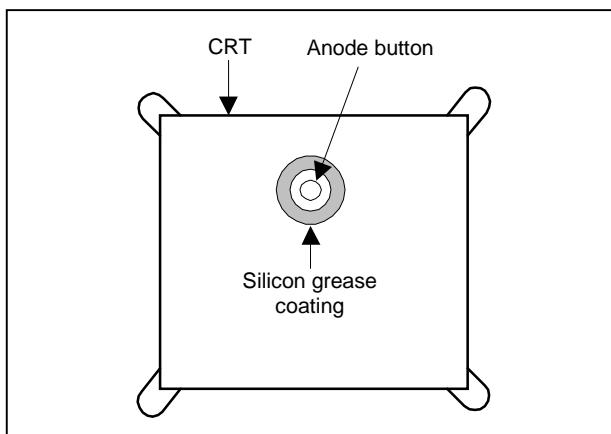


Fig. 6

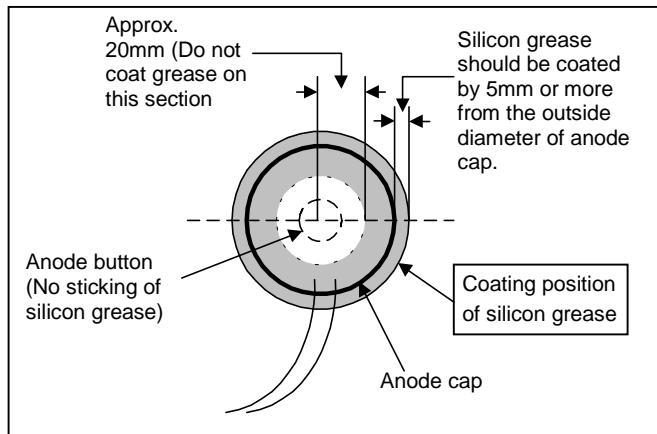
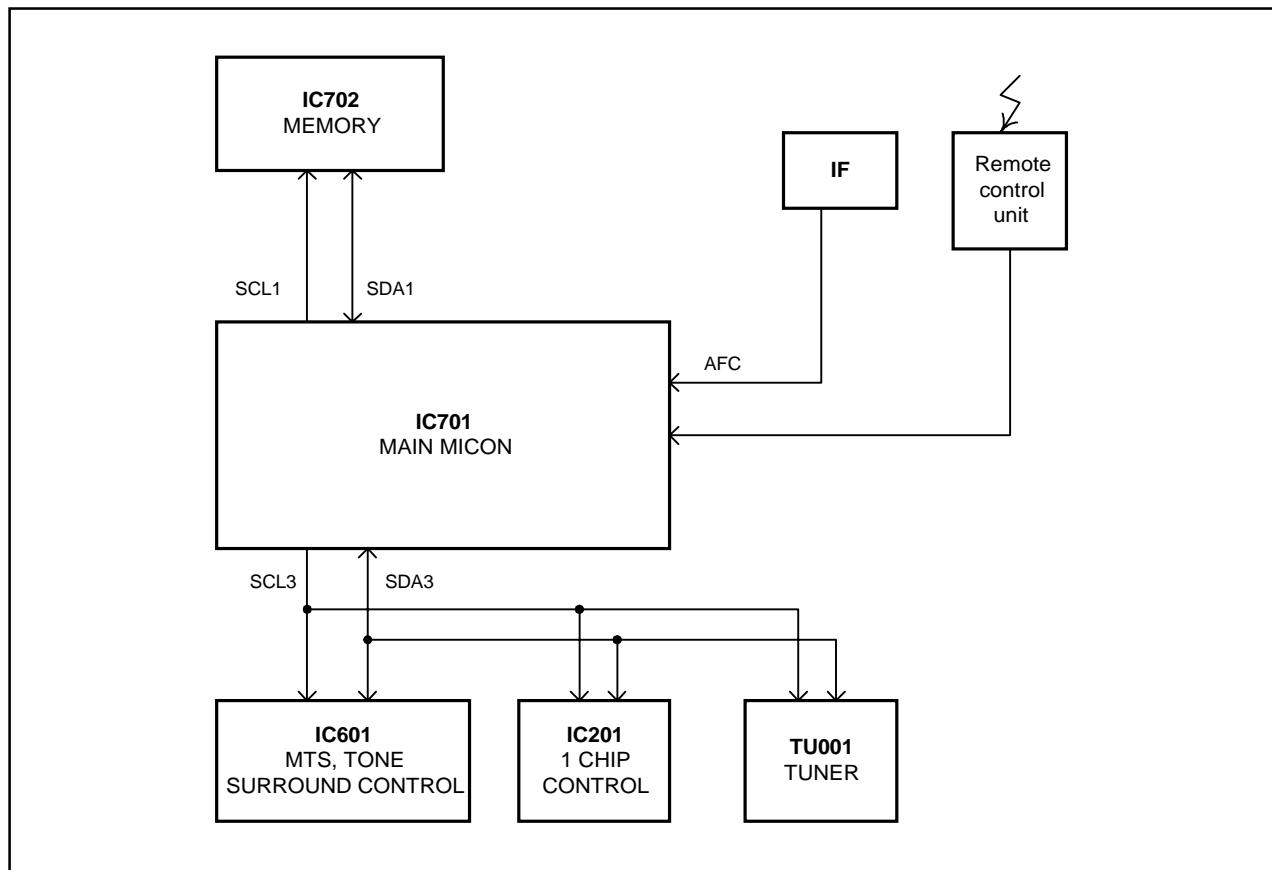


Fig. 7

SYSTEM BLOCK DIAGRAM



REPLACEMENT OF CHIP COMPONENT

■ CAUTIONS

1. Avoid heating for more than 3 seconds.
2. Do not rub the electrodes and the resist parts of the pattern.
3. When removing a chip part, melt the solder adequately.
4. Do not reuse a chip part after removing it.

■ SOLDERING IRON

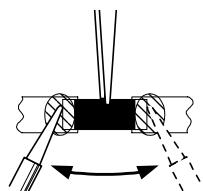
1. Use a high insulation soldering iron with a thin pointed end of it.
2. A 30w soldering iron is recommended for easily removing parts.

■ REPLACEMENT STEPS

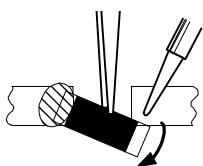
1. How to remove Chip parts

◆ Resistors, capacitors, etc

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



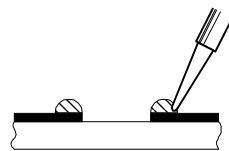
- (2) Shift with tweezers and remove the chip part.



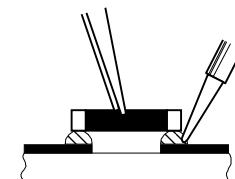
2. How to install Chip parts

◆ Resistors, capacitors, etc

- (1) Apply solder to the pattern as indicated in the figure.



- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

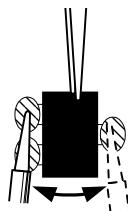


◆ Transistors, diodes, variable resistors, etc

- (1) Apply extra solder to each lead.

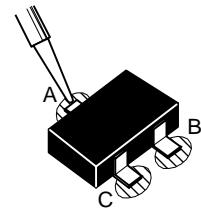


- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.

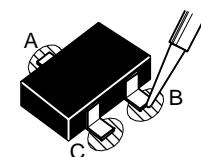


◆ Transistors, diodes, variable resistors, etc

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead **A** as indicated in the figure.



- (4) Then solder leads **B** and **C**.



Note : After removing the part, remove remaining solder from the pattern.

MEMORY IC REPLACEMENT

1. Memory IC

This model uses a memory IC.

This memory IC stores data for proper operation of the video and deflection circuits.

When replacing, be sure to use an IC containing this (initial value) data.

2. Memory IC replacement procedure

Procedure	Screen display																												
(1) Power off Switch off the power and disconnect the power cord from the outlet.																													
(2) Replace the memory IC Initial value must be entered into the new IC.																													
(3) Power on Connect the power cord to the outlet and switch on the power.																													
(4) System constant check and setting It must not adjustment <ol style="list-style-type: none"> 1) Press SLEEP TIMER key and, while the indication of "SLEEP TIMER 0 MIN." is being displayed, press DISPLAY key and VIDEO STATUS key on the remote control unit simultaneously. 2) The SERVICE MENU screen of Fig.1 is displayed. 3) While the SERVICE MENU is displayed, again simultaneously press the DISPLAY and VIDEO STATUS keys to display the Fig.2 SYSTEM CONSTANT screen. 4) Refer to the SYSTEM CONSTANT table and check the setting items. Where these differ, select the setting item with the MENU UP/DOWN key and adjust the setting with the MENU LEFT/RIGHT keys. (The letters of the selected item are displayed in yellow.) 5) After adjusting, release the MENU LEFT/RIGHT key to store the setting value. 6) Press the EXIT key twice to return the normal screen. 	<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>SERVICE MENU</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">PICTURE</td> <td style="width: 50%;">SOUND</td> </tr> <tr> <td>THEATER</td> <td>OTHERS</td> </tr> <tr> <td>LOW LIGHT</td> <td>HIGH LIGHT</td> </tr> <tr> <td>RF AFC</td> <td></td> </tr> <tr> <td>VCO (CW)</td> <td>I2C BUS CTRL</td> </tr> </table> <p>SELECT BY OPERATE BY EXIT BY </p> </div> <p style="text-align: center;">Fig.1</p> <div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>SYSTEM CONSTANT</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td>MODEL</td> <td>:</td> <td>XX-XXXX</td> </tr> <tr> <td>CCD</td> <td>:</td> <td>YES</td> </tr> <tr> <td>BBE</td> <td>:</td> <td>NO</td> </tr> <tr> <td>V-CHIP</td> <td>:</td> <td>YES</td> </tr> <tr> <td>CAN V-CHIP</td> <td>:</td> <td>NO</td> </tr> <tr> <td colspan="3">XXXXXXXX XXX</td> </tr> </table> <p>SELECT BY OPERATE BY EXIT BY </p> </div> <p style="text-align: center;">Fig.2</p>	PICTURE	SOUND	THEATER	OTHERS	LOW LIGHT	HIGH LIGHT	RF AFC		VCO (CW)	I2C BUS CTRL	MODEL	:	XX-XXXX	CCD	:	YES	BBE	:	NO	V-CHIP	:	YES	CAN V-CHIP	:	NO	XXXXXXXX XXX		
PICTURE	SOUND																												
THEATER	OTHERS																												
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BBE	:	NO																											
V-CHIP	:	YES																											
CAN V-CHIP	:	NO																											
XXXXXXXX XXX																													
(5) Receive channel setting Refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the receive channels (Channels Preset) as described.																													
(6) User settings Check the user setting items according to Table 2. Where these do not agree, refer to the OPERATING INSTRUCTIONS (USER'S GUIDE) and set the items as described.																													
(7) SERVICE MENU setting Verify what to set in the SERVICE MENU, and set whatever is necessary. (Fig.1) Refer to the SERVICE ADJUSTMENT for setting.																													

TABLE 1 (System Constant setting)

Setting item	Setting constant	Setting value
MODEL	Display the each application model	Comformable model name
CCD	→ YES → NO	YES
BBE	→ YES → NO	NO
V-CHIP	→ YES → NO	YES
CAN V-CHIP	→ YES → NO	YES

TABLE 2 (User setting)

Setting item	Setting value	Setting item	Setting value
1. Use remote controller keys		DISPLAY VIDEO STATUS SLEEP TIMER	OFF STANDARD 0
POWER CHANNEL VOLUME TV/VIDEO HYPER SURROUND	OFF CH-02 Proper sound volume TV OFF		
2. Settings of MENU with remote control keys			
PICTURE ADJUST		INITIAL SETUP	
TINT COLOR PICTURE BRIGHT DETAIL	CENTER CENTER CENTER CENTER CENTER	TV SPEAKER AUDIO OUT LANGUAGE CLOSED CAPTION	ON FIX ENG OFF
NOISE MUTING SET VIDEO STATUS	ON ALL CENTER	AUTO TUNER SET UP CHANNEL SUMMARY	TUNER MODE : AIR Unnecessary to set
SOUND ADJUST		SET LOCK CODE	Unnecessary to set
BASS TREBLE BALANCE MTS	CENTER CENTER CENTER STEREO		
CLOCK / TIMERS			
SET CLOCK ON/OFF TIMER	Unnecessary to set NO		

SERVICE ADJUSTMENT

ADJUSTMENT PREPARATION

1. You can make the necessary adjustments for this unit with either the remote control unit or with the adjustment equipment and parts as given below.
2. Adjustment with the remote control unit is made on the basis of the initial setting values, however, the new setting values which set the screen to its optimum condition may differ from the initial settings.
3. Make sure that AC power is turned on correctly.
4. Turn on the power for the set and test equipment before use, and start the adjustment procedures after waiting at least 30 minutes.
5. Unless otherwise specified, prepare the most suitable reception or input signal for adjustment.
6. Never touch any adjustment parts, which are not specified in the list for this adjustment-variable resistors, transformers, condensers, etc.
7. Presetting before adjustment.

Unless otherwise specified in the adjustment instructions, preset the following functions with the remote control unit.

● User mode setting position

(1) VIDEO STATUS	STANDARD
(2) HYPER SURROUND	OFF
(3) BASS, TREBLE, BALANCE	CENTER
(4) TINT, COLOR, PICTURE, BRIGHT, DETAIL	CENTER

MEASURING INSTRUMENT

1. DC voltmeter(or digital voltmeter)
2. Oscilloscope
3. Signal generator (Pattern generator) [NTSC]
4. Remote control unit
5. TV audio multiplex signal generator
6. Frequency counter

ADJUSTMENT ITEMS

●Check of B1 POWER SUPPLY

●IF VCO adjustment

●RF AGC adjustment

●FOCUS adjustment

●DEFLECTION adjustment

V. CENTER, V. SIZE, V. POSITION adjustment

H. WIDTH, SIDEPIN CORRECT and H. POSITION
adjustment

●VIDEO / CHROMA adjustment

WHITE BALANCE (Low light) adjustment

WHITE BALANCE (High light) adjustment

SUB BRIGHT adjustment

SUB CONTRAST adjustment

SUB COLOR adjustment

SUB TINT adjustment

●MTS circuit adjustment

INPUT LEVEL check

STEREO VCO adjustment

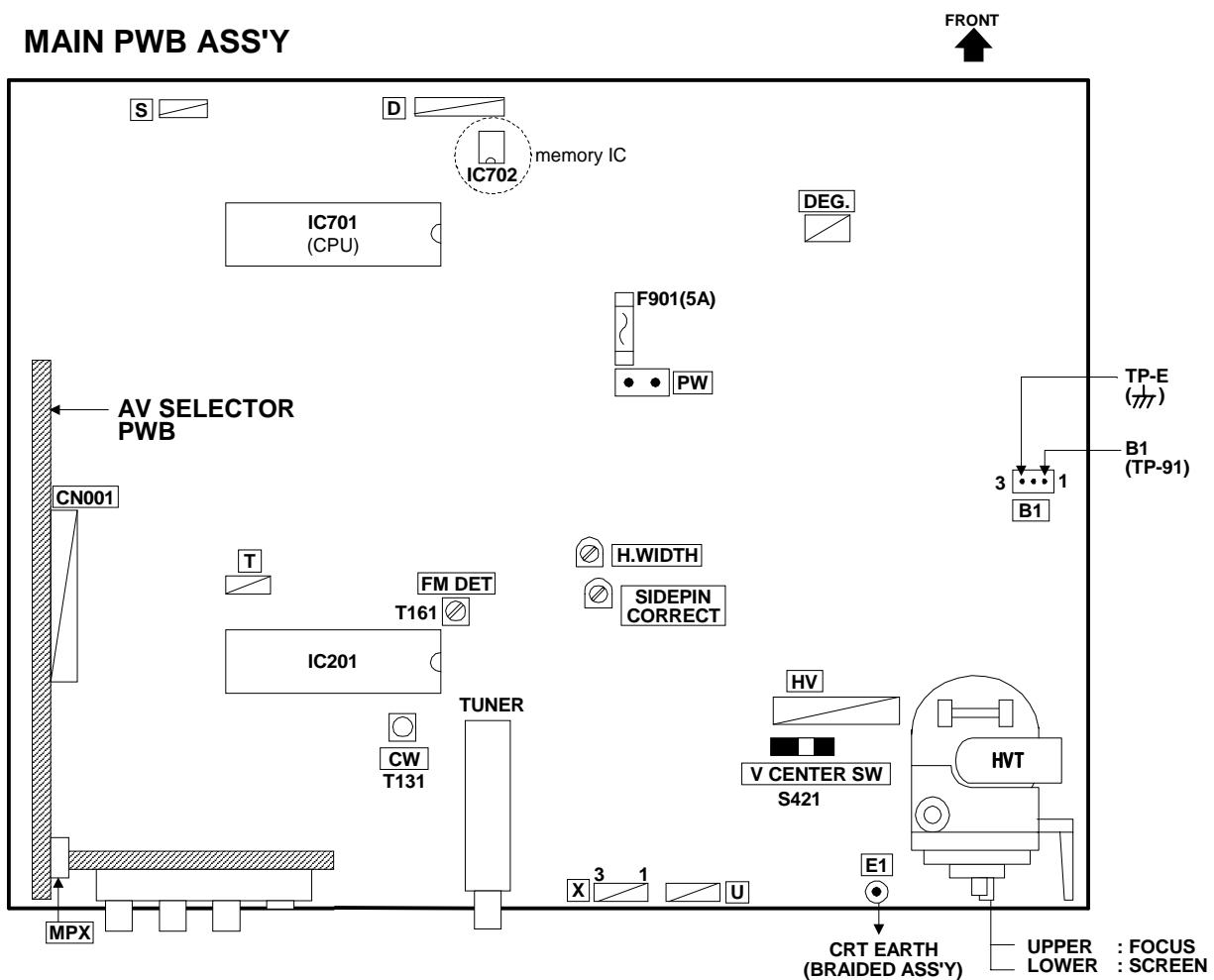
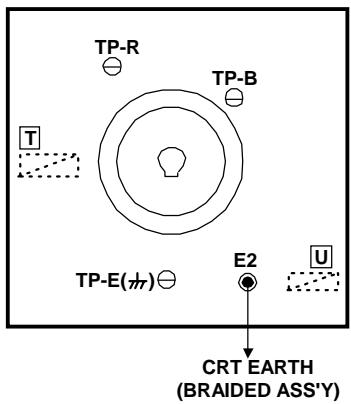
SAP VCO adjustment

FILTER check

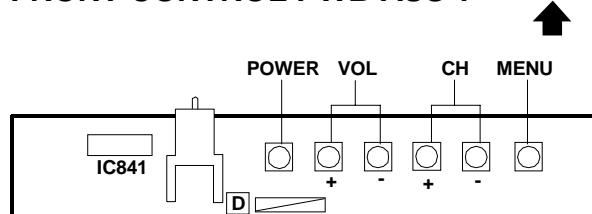
SEPARATION adjustment

ADJUSTMENT LOCATIONS

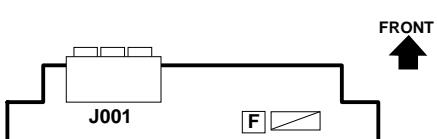
MAIN PWB ASS'Y

CRT SOCKET PWB ASS'Y
(SOLDER SIDE)

FRONT CONTROL PWB ASS'Y



FRONT JACK PWB ASS'Y



BASIC OPERATION OF SERVICE MENU

1. TOOL OF SERVICE MENU OPERATION

Operate the SERVICE MENU with the REMOTE CONTROL UNIT.

2. SERVICE MENU ITEMS

In general, basic setting (adjustments) items or verifications are performed in the SERVICE MENU.

- PICTURE This set the setting values (adjustment values) of the VIDEO/CHROMA and DEFLECTION circuits.
- SOUND This set the setting values (adjustment values) of the AUDIO circuit.
- THEATER This is used when the THEATER MODE is adjusted.
- OTHERS This is used when the OTHERS MODE is adjusted.
- LOW LIGHT This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- HIGH LIGHT This sets the setting values (adjustment values) of the WHITE BALANCE circuit.
- RF AFC This is used when the RF AFC MODE is verified. [Do not adjust]
- VCO (CW) This is used when the IF VCO is adjusted.
- I²C BUS CTRL This is used when ON/OFF of the I²C BUS CTRL is set. [Fixed ON]

3. Basic Operations of the SERVICE MENU

(1) How to enter the SERVICE MENU.

Press **SLEEP TIMER** key and, while the indication of “**SLEEP TIMER 0 MIN.**” is being displayed, press **DISPLAY** key and **VIDEO STATUS** key on the remote control unit simultaneously to enter the **SERVICE MENU** screen ① shown in the next figure page.

(2) SERVICE MENU screen selection

Press the UP / DOWN key of the MENU to select any of the following items.

(The letters of the selected items are displayed in yellow.)

● PICTURE	● SOUND
● THEATER	● OTHERS
● LOW LIGHT	● HIGH LIGHT
● RF AFC	
● VCO (CW)	● I ² C BUS CTRL

SERVICE MENU (MAIN MENU)

SERVICE MENU	
PICTURE	SOUND
THEATER	OTHERS
LOW LIGHT	HIGH LIGHT
RF AFC	
VCO (CW)	I ² C BUS CTRL
SELECT BY	▲ ▼
OPERATE BY	◀ ▶
	EX IT

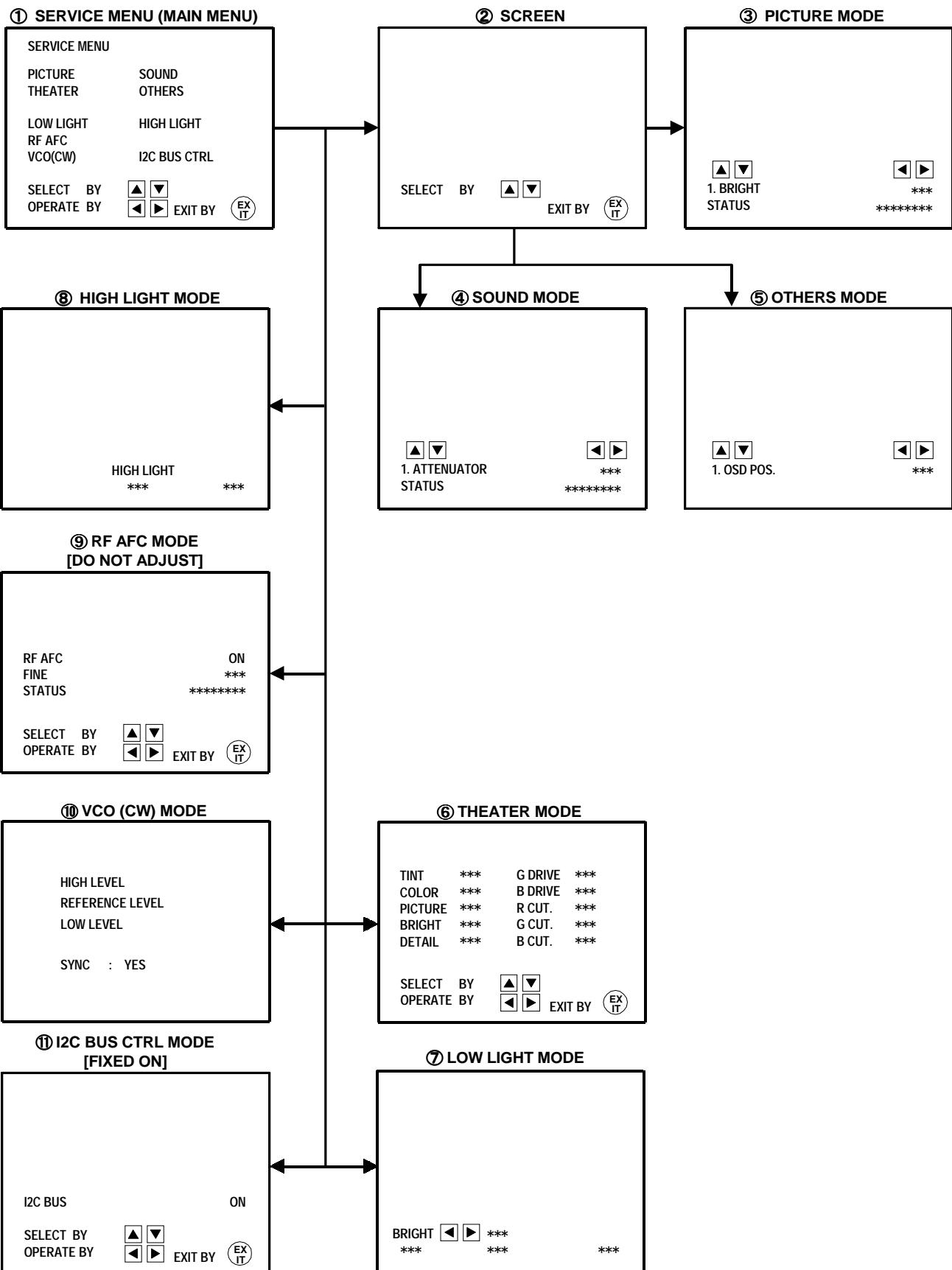
(3) Enter the any setting (adjustment) mode

● PICTURE, SOUND and OTHERS mode

- 1) If select any of PICTURE, SOUND or OTHERS items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screen ② will be displayed as shown in figure page later.
- 2) Then the UP / DOWN key is pressed, the PICTURE mode screen ③ or the SOUND mode screen ④ or the OTHERS mode screen ⑤ is displayed, and the PICTURE, SOUND or OTHERS setting can be performed.

● THEATER, LOW LIGHT, HIGH LIGHT, RF AFC, VCO (CW) and I²C BUS CTRL mode

- 1) If select any of THEATER / LOW LIGHT / HIGH LIGHT / RF AFC / VCO (CW) / I²C BUS CTRL items, and the LEFT / RIGHT key is pressed from SERVICE MENU (MAIN MENU), the screens ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ will be displayed as shown in figure page later.
- 2) Then the settings or verifications can be performed.



(4) Setting method

1) UP / DOWN key of the MENU
Select the SETTING ITEM.

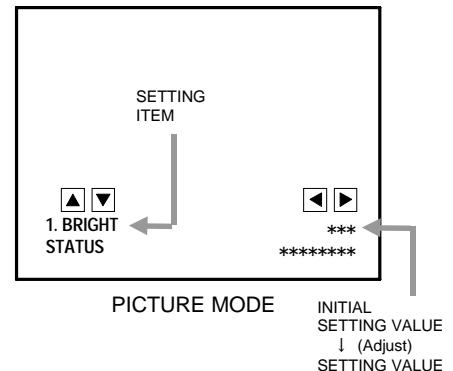
2) LEFT / RIGHT key of the MENU

Setting (adjust) the SETTING VALUE of the SETTING ITEM.

When the key is released the SETTING VALUE will be stored
(memorized).

3) EXIT key

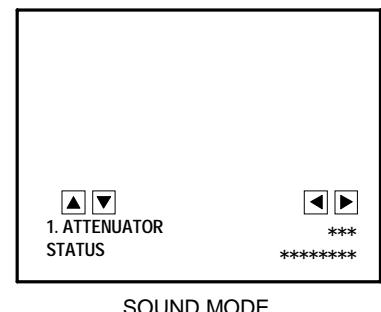
Returns to the previous screen.

**(5) Releasing SERVICE MENU**

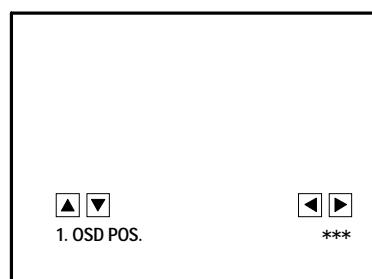
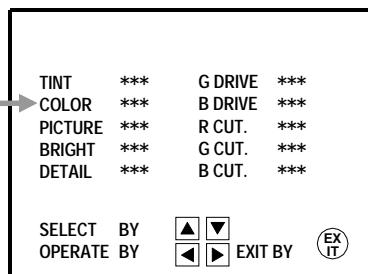
1) After returning to the SERVICE MENU upon completion of the setting (adjustment) work, press the EXIT key again.

★ The settings for LOW LIGHT and HIGH LIGHT are described in the WHITE BALANCE page of ADJUSTMENT.

★ The setting for VCO (CW) are described in the IF VCO page of ADJUSTMENT.



The letters of the selected items are displayed in yellow.



INITIAL SETTING VALUE OF SERVICE MENU

1. Adjustment of the SERVICE MENU is made on the basis of the initial setting values; however, the new setting values which set the screen in its optimum condition may differ from the initial setting.
2. Do not change the initial Setting Values of the Setting (Adjustment) items not listed in "ADJUSTMENT".

● PICTURE MODE

- ◆ The four setting items in the video mode No.8 EXT BRI., No.9 EXT PIC., No.12 EXT TINT and No.13 EXT COLOR are linked to the items in the TV MODE No.1 BRIGHT, No.2 PICTURE, No.6 TINT and No.7 COLOR, respectively. When the setting items in the TV mode are adjusted, the values in the setting items in the video mode are revised automatically to the same values in the TV mode. (The initial setting values given in () are off-set values.)
- ◆ When the four items (No.8, 9, 12 and 13) are adjusted in the video mode, the setting values in each item are revised independently.

No.	Setting (Adjustment) item	Variable range	Initial setting value (ALL MODEL)
1.	BRIGHT	000~127	064
2.	PICTURE	000~127	090
3.	WPS (WHITE PEAK SUPPRESSOR)	000 / 001	001
4.	TV DETAIL	000~063	040
5.	TV BPF (TV B.P.FILTER)	000 / 001	001
6.	TINT	000~127	074
7.	COLOR	000~127	053
8.	EXT BRIGHT	±025	(+001)
9.	EXT PICT.	±025	(±000)
10.	EXT DETAIL	000~063	038
11.	EXT BPF (EXT B.P.FILTER)	000 / 001	001
12.	EXT TINT	±025	(+007)
13.	EXT COLOR	±025	(+005)
14.	V SIZE	000~063	028
15.	V CENTER	000~007	000
16.	H POSITION	000~031	022
17.	H AFC	000 / 001	000
18.	BLANKING	000 / 001	000
19.	RF AGC	000~063	050
20.	PIF VCO	000~127	064

● SOUND MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value (ALL MODEL)
1.	ATTENUATOR	000~063	050
2.	BALANCE	000~063	032
3.	NOISE DET.	000 / 001	001
4.	IN LEVEL (INPUT LEVEL)	000~063	027
5.	FH MONITOR	000 / 001	000
6.	STEREO VCO	000~063	023
7.	PILOT CAN. (PILOT CANCELER)	000 / 001	000
8.	FILTER	000~063	030
9.	LOW SEP. (LOW SEPARATION)	000~063	028
10.	HI SEP. (HIGH SEPARATION)	000~063	019
11.	5FH MON. (5FH MONITOR)	000 / 001	000
12.	SAP VCO	000~063	027
13.	IN GAIN	000 / 001	000
14.	FIL.OFFSET	±010	±000
15.	BBE BASS	±010	-001
16.	BBE TRE	±010	-001

● THEATER MODE

Setting (Adjustment) item	Variable range	Initial setting value (ALL MODEL)
TINT	-20～+20	±00
COLOR	-20～+20	-02
PICTURE	-30～+20	-15
BRIGHT	-20～+20	±00
DETAIL	-15～+15	-03
G DRIVE	-99～+50	-25
B DRIVE	-99～+50	-72
R CUT. (R CUTOFF)	±10	±00
G CUT. (G CUTOFF)	±10	±00
B CUT. (B CUTOFF)	±10	±00

● OTHERS MODE

No.	Setting (Adjustment) item	Variable range	Initial setting value (ALL MODEL)
1.	OSD POS.	000～007	000
2.	CCD POS. (CLOSED CAPTION DECODER POS.)	000～015	006
3.	EOSEL	000 / 001	000
4.	F1 FIELD	000 / 001	000
5.	F1 LINE21	000～015	008
6.	F2 LINE21	000～015	008
7.	OSD STABI	000 / 001	000
8.	SYNC SEP.	000 / 001	001
9.	MENU COLOR	-030～±000	-010
10.	MENU PICT	-030～±000	-012
11.	MENU BRI	-030～±000	-012
12.	TU1 FM TRAP	000 / 001	000
13.	TU2 FM TRAP	000 / 001	000

● LOW LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
R CUTOFF	000～255	020
G CUTOFF	000～255	020
B CUTOFF	000～255	020

● HIGH LIGHT MODE

Setting (Adjustment) item	Variable range	Initial setting value
G DRIVE	000～255	128
B DRIVE	000～255	128

● RF AFC MODE

Setting (Adjustment) item	Variable range	Initial setting value
RF AFC FINE	ON/OFF -77～+77	ON (DO NOT ± x x (ADJUST))

● I2C BUS CTRL MODE

Setting (Adjustment) item	Variable range	Initial setting value
I2C BUS	ON/OFF	[Fixed ON] (DO NOT ADJUST)

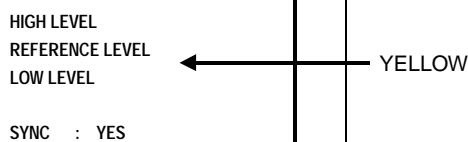
■ADJUSTMENT

B1 POWER SUPPLY

Item	Measuring instrument	Test point	Adjustment part	Description
Check of B1 POWER SUPPLY	DC Voltmeter	B1 (【B1】 Connector ① pin) (TP-91) TP-E(↓) (【B1】 Connector ③ pin)		<ol style="list-style-type: none"> Receive a black-and-white signal. (Color off) Connect the DC Voltmeter to 【B1】 connector ① pin (TP-91) and TP-E(↓) (B1 connector ③ pin). Confirm that the voltage is DC134V±2V.

ADJUSTMENT OF IF. VCO

Item	Measuring instrument	Test point	Adjustment part	Description
IF VCO adjustment	Signal generator		CW TRANSF. [VCO(CW)] MODE	<ul style="list-style-type: none"> Under normal conditions, no adjustment is required. <ol style="list-style-type: none"> Receive a NTSC aer. broadcast. Select the VCO (CW) mode from the SERVICE MENU. Confirm the color change (yellow) from 「HIGH LEVEL」 to 「LOW LEVEL」 by CW TRANSF. and “SYNC : YES” being shown on the screen. Then, adjust CW TRANSF. until 「REFERENCE LEVEL」 mark turns yellow and confirm again “SYNC : YES” being shown on the screen.



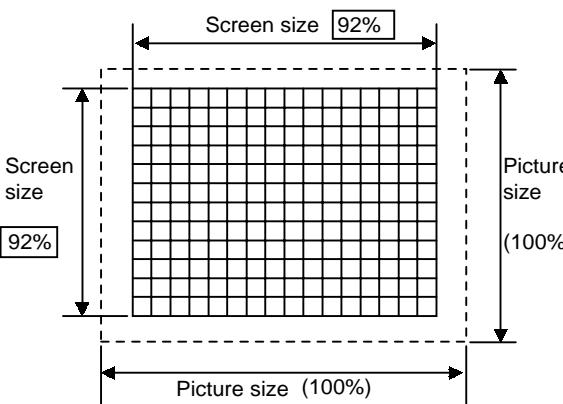
ADJUSTMENT OF RF AGC

Item	Measuring instrument	Test point	Adjustment part	Description
RF. AGC adjustment			No.19 RF AGC	<ol style="list-style-type: none"> Receive a broadcast. Select “No.19 RF AGC” of the PICTURE MODE. Press the MUTING key and turn off color. With the MENU LEFT key, get noise in the screen picture. (0 side of setting value) Press the MENU RIGHT key and stop when noise disappears from the screen. Change to other channels and make sure that there is no irregularity. Press the MUTING key and get color out.

ADJUSTMENT OF FOCUS

Item	Measuring instrument	Test point	Adjustment part	Description
FOCUS adjustment	Signal generator		FOCUS VR [In HVT]	<ul style="list-style-type: none"> SET VIDEO STATUS to “STANDARD” <ol style="list-style-type: none"> Receive a crosshatch signal. While looking at the screen, adjust FOCUS VR so that the vertical and horizontal lines will be clear and in fine detail. Make sure that the picture is in focus even when the screen gets darkened. <p>Note :</p> <p>The final adjustment of convergence must be done after the FOCUS adjustment. (Convergence is changed by FOCUS adjustment.)</p> <p>When makes difference by FOCUS adjustment, should be reconfirming purity adjustment.</p>

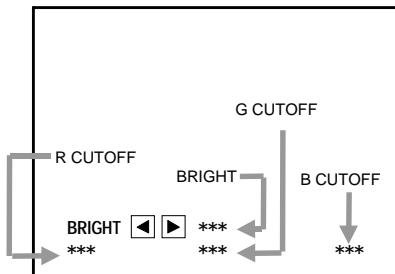
ADJUSTMENT OF DEFLECTION CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
V.CENTER, V.SIZE and V.POSITION adjustment	Signal generator		No.14 V SIZE No.15 V CENTER V.CENTER SW (S1421)	<p>1. Receive a crosshatch signal. 2. Make sure that the "No.15 V CENTER" of the PICTURE SERVICE MODE is 0. 3. Use the LEFT/RIGHT keys of the MENU to set the initial setting value for the No.14 V SIZE. 4. Adjust the vertical SCREEN size to 92% with the No.14 V SIZE and V.CENTER SW (S1421).</p> <p>Note: Bottom of the screen is to be located within the "85%~95%" range.</p> 
H.WIDTH, SIDEPIN CORRECT and H.POSITION Adjustment	Signal generator		No.16 H POSITION SIDEPIN CORRECT VR H.WIDTH VR	<p>1. Receive a crosshatch signal. 2. Adjust the SIDEPIN CORRECT. VR so that vertical lines at both side of the crosshatch are straight. 3. Select the "No.16 H POSITION" of the PICTURE SERVICE MODE. 4. Press the LEFT/RIGHT keys of the MENU to set the initial setting values for the "No.16 H POSITION". 5. Adjust the "No.16 H POSITION" until the screen will be horizontally centered. 6. Adjust the H.WIDTH VR so that 92% of the overall crosshatch is displayed on the screen. 7. As required, repeat above steps 2 and 6.</p>

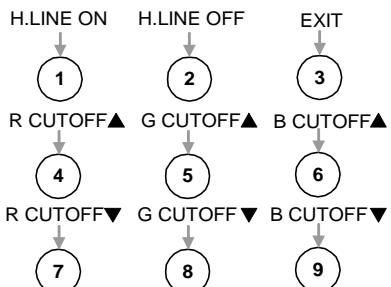
ADJUSTMENT OF VIDEO / CHROMA CIRCUIT

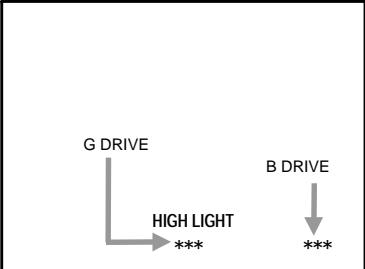
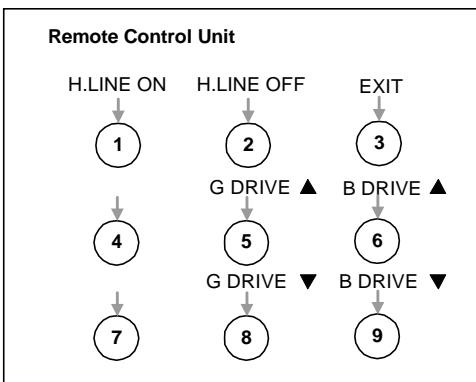
Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (Low Light) adjustment	Signal generator		<p>BRIGHT</p> <p>R CUTOFF</p> <p>G CUTOFF</p> <p>B CUTOFF</p> <p>SCREEN VR [In HVT]</p>	<ol style="list-style-type: none"> Receive a black-and-white signal. (Color off) Select the [LOW LIGHT] MODE from the SERVICE MENU. Set the initial setting value of "BRIGHT" is 64. with the LEFT/RIGHT key of the remote control unit. Set the initial setting value of "R CUTOFF", "G CUTOFF" and "B CUTOFF" is 20. with the ④ to ⑨ keys of the remote control unit. Display a single horizontal line by pressing the ① key of the remote control unit. Turn the screen VR all the way to the left. Turn the screen VR gradually to the right from the left until either one of the red, blue or green colors appears faintly. Adjust the two colors which did not appear until the single horizontal line that is displayed becomes white using the ④ to ⑨ keys of the remote control unit. Turn the screen VR until the single horizontal line is displayed faintly. Press the ② key to return to the regular screen. <p>* The ③ EXIT key is the cancel key for the WHITE BALANCE.</p>

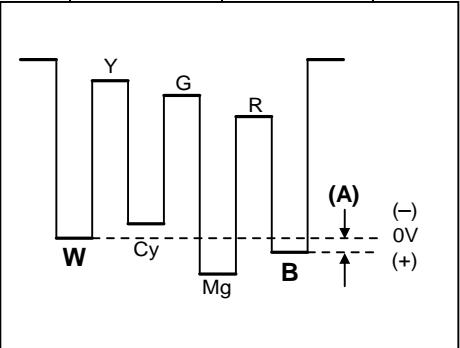
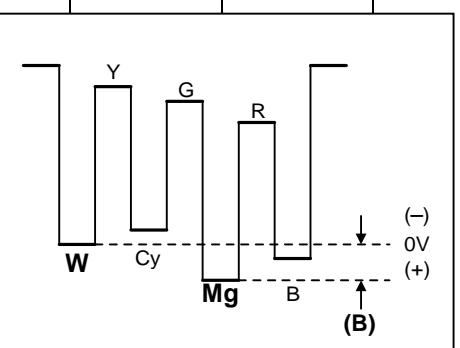
[LOW LIGHT] MODE



Remote Control Unit



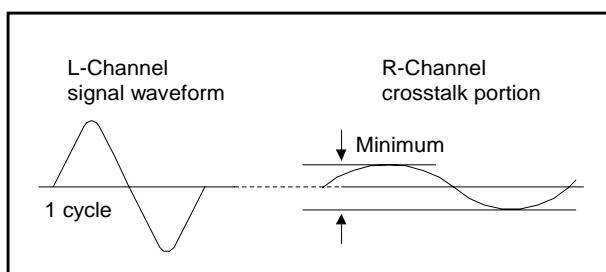
Item	Measuring instrument	Test point	Adjustment part	Description
WHITE BALANCE (High Light) adjustment	Signal generator		G DRIVE B DRIVE	<p>1. Receive a black-and-white signal. (Color off)</p> <p>2. Select the [HIGH LIGHT] MODE in the SERVICE MENU.</p> <p>3. Set the initial setting value of "G DRIVE" and "B DRIVE" with the ⑤, ⑥, ⑧ and ⑨ keys of the remote control unit.</p> <p>4. Adjust the screen until it becomes white using the ⑤, ⑥, ⑧ and ⑨ keys of the remote control unit.</p> <p>* The ③ EXIT key is the cancel key for the WHITE BALANCE.</p>
		<p>[HIGH LIGHT] MODE</p>  <p>Remote Control Unit</p> 		
SUB BRIGHT adjustment	Remote control unit		No.1 BRIGHT	<p>1. Receive a broadcast.</p> <p>2. Select "No.1 BRIGHT" of the PICTURE MODE.</p> <p>3. Set the initial setting value of the "No.1 BRIGHT" with the LEFT/RIGHT key of the MENU.</p> <p>4. If the brightness is not the best with the initial setting value, make fine adjustment of the "No.1 BRIGHT" until you get the optimum brightness.</p>
SUB CONTRAST adjustment	Remote control unit		No.2 PICTURE	<p>1. Receive a broadcast.</p> <p>2. Select "No.2 PICTURE" of the PICTURE MODE.</p> <p>3. Set the initial setting value of the "No.2 PICTURE" with the LEFT/RIGHT key of the MENU.</p> <p>4. If the contrast is not the best with the initial setting value, make fine adjustment of the "No.2 PICTURE" until you get the optimum contrast.</p>

Item	Measuring instrument	Test point	Adjustment part	Description
SUB COLOR adjustment	Signal generator Oscilloscope Remote control unit	TP-B TP-E(↓) [CRT SOCKET PWB]	No.7 COLOR	<p>[Method of adjustment without measuring instrument]</p> <ol style="list-style-type: none"> 1. Receive a broadcast. 2. Select "No.7 COLOR" of the PICTURE MODE. 3. Set the initial setting value of the "No.7 COLOR" with the LEFT/RIGHT key of the MENU. 4. If the color is not the best with the Initial setting value, make fine adjustment of the "No.7 COLOR" until you get the optimum color.  <p>[Method of adjustment using measuring instrument]</p> <ol style="list-style-type: none"> 1. Input the full field color bar signal (75% white). 2. Select "No.7 COLOR" to the PICTURE MODE. 3. Set the initial setting value of the "No.7. COLOR" with the LEFT/RIGHT key of the MENU. 4. Connect the oscilloscope between TP-B and TP-E. 5. Adjust COLOR and bring the value of (A) in the illustration to the voltage +3V (V_{W-B}).
SUB TINT adjustment	Signal generator Oscilloscope Remote control unit	TP-B TP-E(↓) [CRT SOCKET PWB]	No.6 TINT	<p>[Method of adjustment without measuring instrument]</p> <ol style="list-style-type: none"> 1. Receive a broadcast. 2. Select "No.6 TINT" of the PICTURE MODE. 3. Set the initial setting value of the "No.6 TINT" with the LEFT/RIGHT key of the MENU. 4. If the tint is not the best with the initial setting value, make fine adjustment of the "No.6 TINT" until you get the optimum tint.  <p>[Method of adjustment using measuring instrument]</p> <ol style="list-style-type: none"> 1. Input the full field color bar signal (75% white). 2. Select "No.6 TINT" to the PICTURE MODE. 3. Set the initial setting value of the "No.6 TINT" with the LEFT/RIGHT key to the MENU. 4. Connect the oscilloscope between TP-B and TP-E. 5. Adjust TINT and bring the value of (B) in the illustration to the voltage -5V (V_{W-Mg}).

ADJUSTMENT OF MTS CIRCUIT

Item	Measuring instrument	Test point	Adjustment part	Description
MTS INPUT LEVEL check			No.4 IN LEVEL	<ol style="list-style-type: none"> 1. Select the "No.4 IN LEVEL" of the SOUND MODE. 2. Verify that the "No.4 IN LEVEL" is set at its initial setting value.
MTS STEREO VCO adjustment	Signal generator Frequency counter	【MPX】 Connector 【2】pin RTV [AV SELECTOR PWB]	No.5 FH MONITOR No.6 STEREO VCO	<ol style="list-style-type: none"> 1. Receive a RF signal (nonmodulated sound signal) from the antenna terminal. 2. Select the "No.5 FH MONITOR" of SOUND MODE, and change the setting value from 0 to 1. 3. Connect the Frequency Counter to pin 【2】of 【MPX】 connector. 4. Select the "No.6 STEREO VCO". 5. Set the initial setting value of the "No.6 STEREO VCO" with the LEFT/RIGHT key of the menu. 6. Adjust the "No.6 STEREO VCO" so that the Frequency Counter will display $15.73\text{kHz} \pm 0.1\text{kHz}$. 7. Select the "No.5 FH MONITOR" of the SOUND MODE, and reset the setting value from 1 to 0.

Item	Measuring instrument	Test point	Adjustment part	Description
MTS SAP VCO adjustment	Signal generator Frequency counter	【MPX】 Connector 【4】 pin SDA 【3】 pin GND 【2】 pin RTV [AV SELECTOR PWB]	No.11 5FH MON. No.12 SAP VCO	<ol style="list-style-type: none"> Receive a RF signal (non-modulated sound signal) from the antenna terminal. Connect between pin 【4】 of 【MPX】 connector and GND (Pin 【3】 of 【MPX】 connector) through $1M\Omega$ Resistor. Select the "No.11 5FH MON." of the SOUND MODE, and reset the setting value from 0 to 1. Connect the Frequency counter to pin 【2】 (R.OUT) of 【MPX】 connector. Select the "No.12 SAP VCO". Set the initial setting value of "No.12 SAP VCO" with the LEFT/RIGHT key of the menu. Adjust the "No.12 SAP VCO" so that the Frequency Counter will display $78.67\text{kHz} \pm 0.5\text{kHz}$. Select the "No.11 5FH MON." of the SOUND MODE, and reset the setting value from 1 to 0.
MTS FILTER check			No.8 FILTER	<ol style="list-style-type: none"> Select the "No.8 FILTER" of the SOUND MODE. Verify that the "No.8 FILTER" is set at its initial setting value.
MTS SEPARATION adjustment	TV audio multiplex signal generator Oscilloscope	【MPX】 Connector 【1】 pin LTV 【2】 pin RTV [AV SELECTOR PWB]	No.9 LOW SEP. No.10 HI SEP.	<p>Menu "MTS" is set to "STEREO".</p> <ol style="list-style-type: none"> Input a stereo L signal (300Hz) from the TV audio multiplex signal generator to the antenna terminal. Connect an oscilloscope to pin 【1】 (L OUT) of 【MPX】 connector, and display one cycle portion of the 300Hz signal. Change the connection of the oscilloscope to pin 【2】 (R OUT) of 【MPX】 connector, and enlarge the voltage axis. Select the "No.9 LOW SEP." of the SOUND MODE. Set the initial setting value of the "No.9 LOW SEP." with the LEFT/RIGHT key of the menu. Adjust the "No.9 LOW SEP." so that the stroke element of the 300Hz signal will become minimum. Change the signal to 3kHz, and similarly adjust the "No.10 HI SEP.".



PURITY, CONVERGENCE

PURITY ADJUSTMENT

1. Demagnetize CRT with the demagnetizer.
2. Loosen the retainer screw of the deflection yoke.
3. Remove the wedges.
4. Input a green raster signal from the signal generator, and turn the screen to green raster.
5. Move the deflection yoke backward.
6. Bring the long lug of the purity magnets on the short lug and position them horizontally. (Fig.2)
7. Adjust the gap between two lugs so that the GREEN RASTER will come into the center of the screen. (Fig.3)
8. Move the deflection yoke forward, and fix the position of the deflection yoke so that the whole screen will become green.
9. Insert the wedge to the top side of the deflection yoke so that it will not move.
10. Input a crosshatch signal.
11. Verify that the screen is horizontal.
12. Input red and blue raster signals, and make sure that purity is properly adjusted.

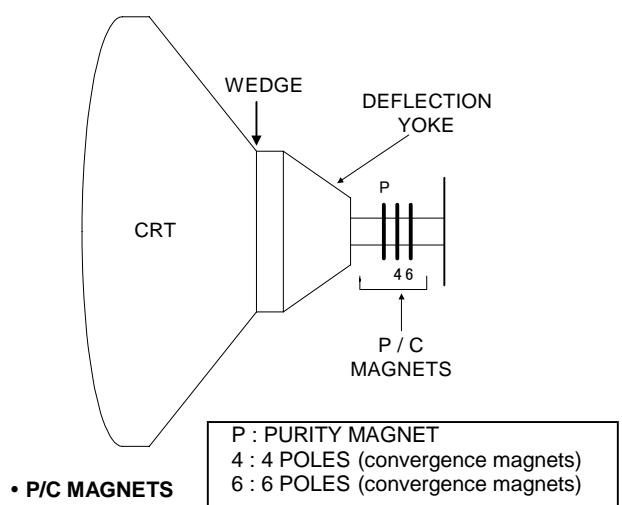


Fig.1

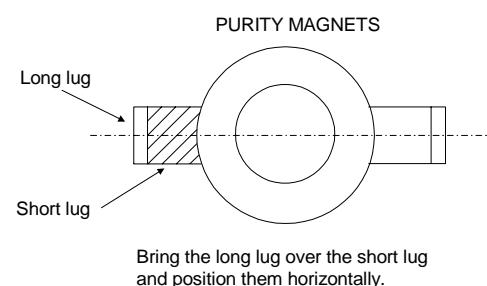


Fig.2

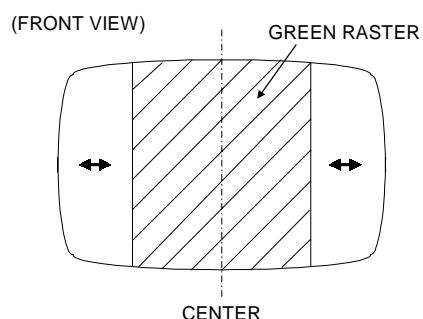
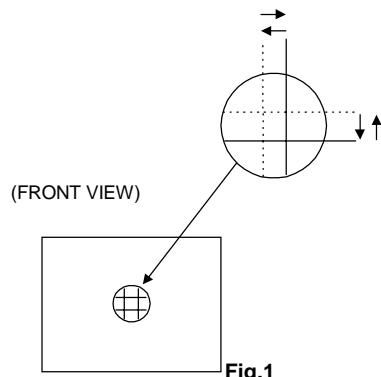


Fig.3

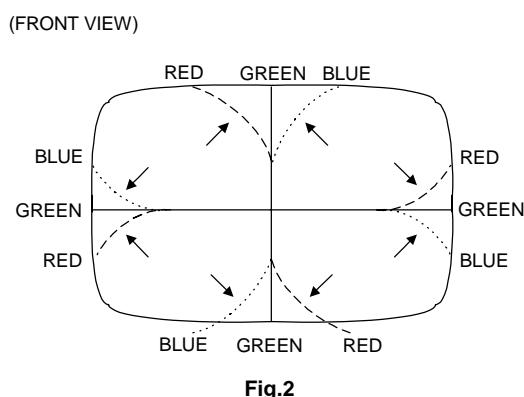
STATIC CONVERGENCE ADJUSTMENT

1. Input a crosshatch signal.
2. Using 4-pole convergence magnets, overlap the red and blue lines in the center of the screen (Fig.1) and turn them to magenta (red/blue).
3. Using 6-pole convergence magnets, overlap the magenta(red/blue) and green lines in the center of the screen and turn them to white.
4. Repeat 2 and 3 above, and make best convergence.

**DYNAMIC CONVERGENCE ADJUSTMENT**

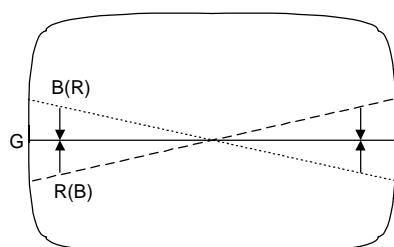
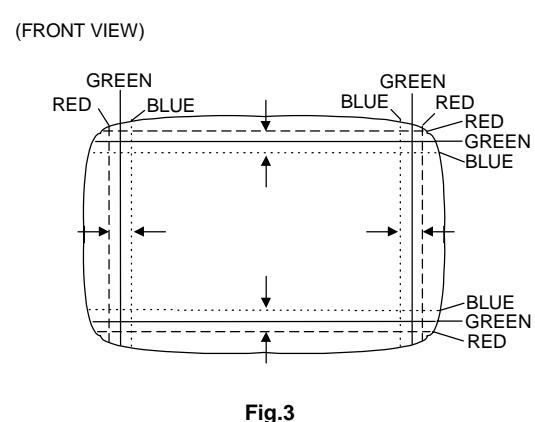
1. Move the deflection yoke up and down and overlap the lines in the periphery. (Fig. 2)
2. Move the deflection yoke left to right and overlap the lines in the periphery. (Fig. 3)
3. Repeat 1 and 2 above, and make best convergence.

- After adjustment, fix the wedge at the original position.
Fasten the retainer screw of the deflection yoke.
Fix the 6 magnets with glue.

**[With differential coil if available]**

- If the lines are not aligned, as shown in Fig. 4, correct them with the differential coil attached to the deflection yoke.

(FRONT VIEW)

**Fig.4**

SELF CHECK FUNCTIONS

1. Outline

This model has self check functions given below. When a malfunction has been detected, the POWER is turned off and the LED flashes to inform of the failure. The malfunction is detected by the signal input state of the control line connected to the microcomputer.

2. Self check items

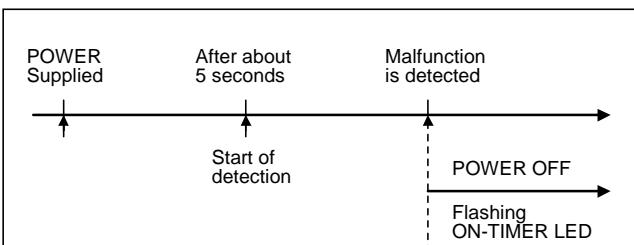
Check item	Details of detection	Method of detection	State of malfunction
Over-current protection (HAZARD)	Operation of B1 protector circuit.	The microcomputer detects at 1 second intervals. If NG is detected for more than 1 ms, a malfunction is interpreted.	When a malfunction has been detected, the POWER is turned off. While the POWER is being turned off, the power key of the remote controller is not operational until the power code is taken out and put in again.

3. Self check indicating function

The self-check function begins detection about 5 seconds after power is supplied.

In the event a malfunction is detected, the power is cut off immediately.

At this time, the ON-TIMER LED flashes to inform of the malfunction.



[ON-TIMER LED indication]

The ON-TIMER LED flashes at 0.5 seconds intervals.

HOW TO CHECK THE HIGH VOLTAGE HOLD DOWN CIRCUIT

1. HIGH VOLTAGE HOLD DOWN CIRCUIT

After repairing the high voltage hold down circuit shown in Fig. 1.
This circuit shall be checked to operate correctly.

2. CHECKING OF THE HIGH VOLTAGE HOLD DOWN CIRCUIT

- (1) Turn the POWER SW ON.
- (2) As shown in Fig.2, set the resistor (between 【X】 connector 【1】 & 【3】).
- (3) Make sure that the screen picture disappears.
- (4) Temporarily unplug the power cord.
- (5) Remove the resistor (between 【X】 connector 【1】 & 【3】).
- (6) Again plug the power cord, make sure that the normal picture is displayed on the screen.

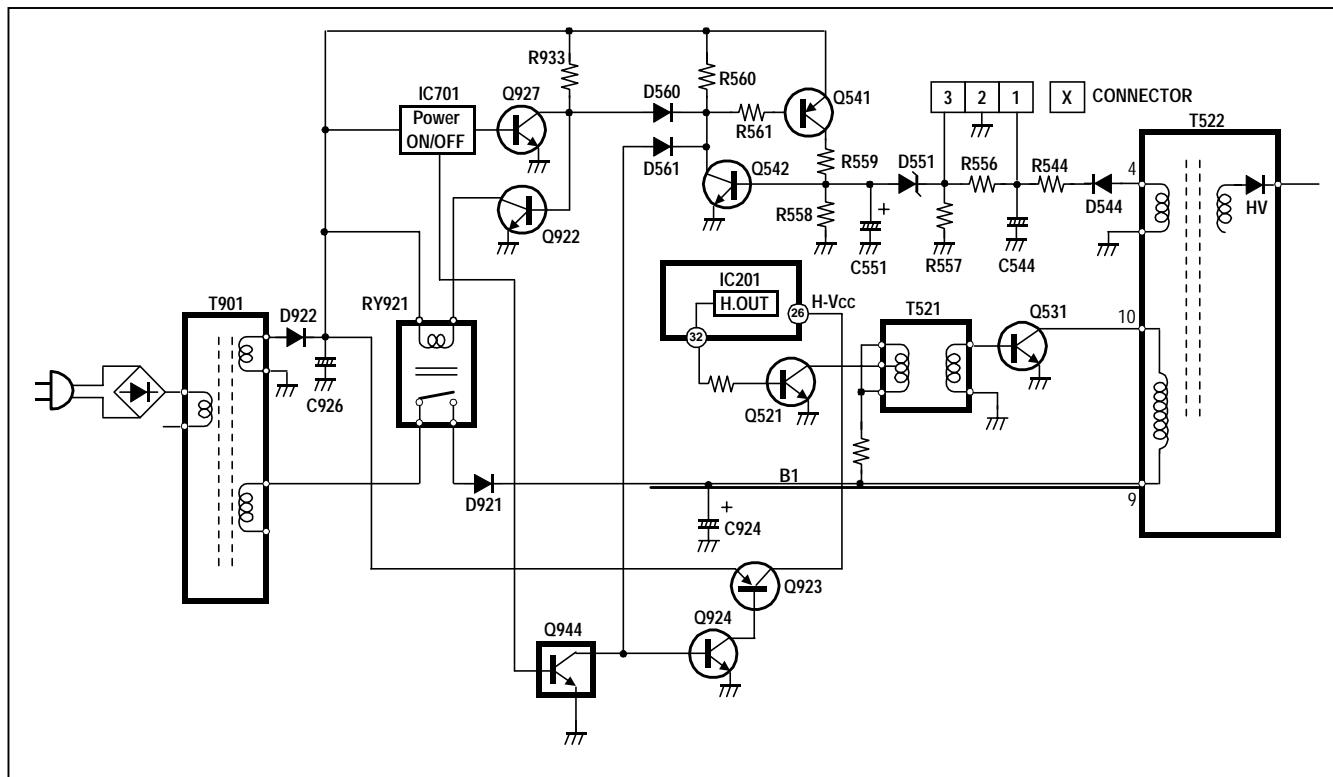


Fig.1

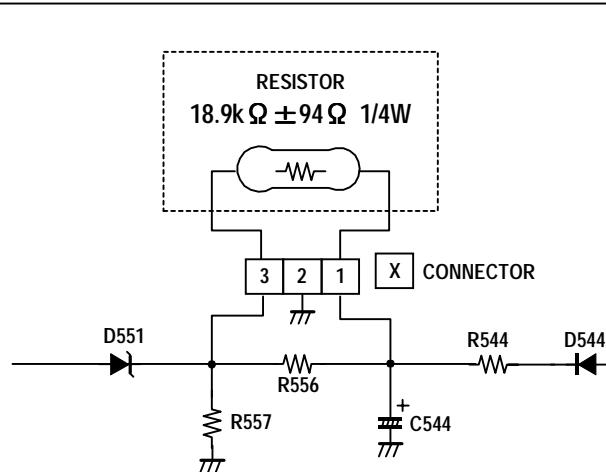


Fig.2

JVC SERVICE & ENGINEERING COMPANY OF AMERICA DIVISION OF JVC AMERICAS CORP.

Head office :	1700 Valley Road, Wayne, New Jersey 07470	(973)315-5000
East Coast :	10 New Maple Avenue, Pine Brook, New Jersey 07058	(973)396-1000
Midwest :	705 Enterprise St. Aurora, Illinois 60504	(630)851-7855
West Coast :	5665 Corporate Avenue, Cypress, California 90630	(714)229-8011
Southwest :	10700 Hammerly, Suite 105, Houston, Texas 77043	(713)935-9331
Hawaii :	2969 Mapunapuna Place, Honolulu, Hawaii 96819	(808)833-5828
Southeast :	1500 Lakes Parkway, Lawrenceville, Georgia 30243	(770)339-2582

JVC CANADA INC.

Head office :	21 Finchdene Square Scarborough, Ontario M1X 1A7	(416)293-1311
Vancouver :	13040 Worster Court Richmond B.C. V6V 2B3	(604)270-1311

JVC®

JVC

SCHEMATIC DIAGRAMS

COLOR TELEVISION

AV-32220_G

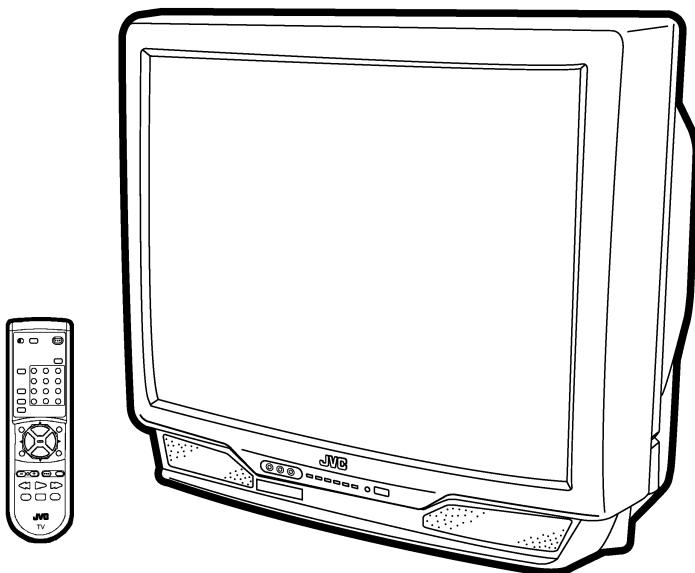
AV-32220_H

AV-32220_M

BASIC CHASSIS

GF3

CD-ROM No.SML200102



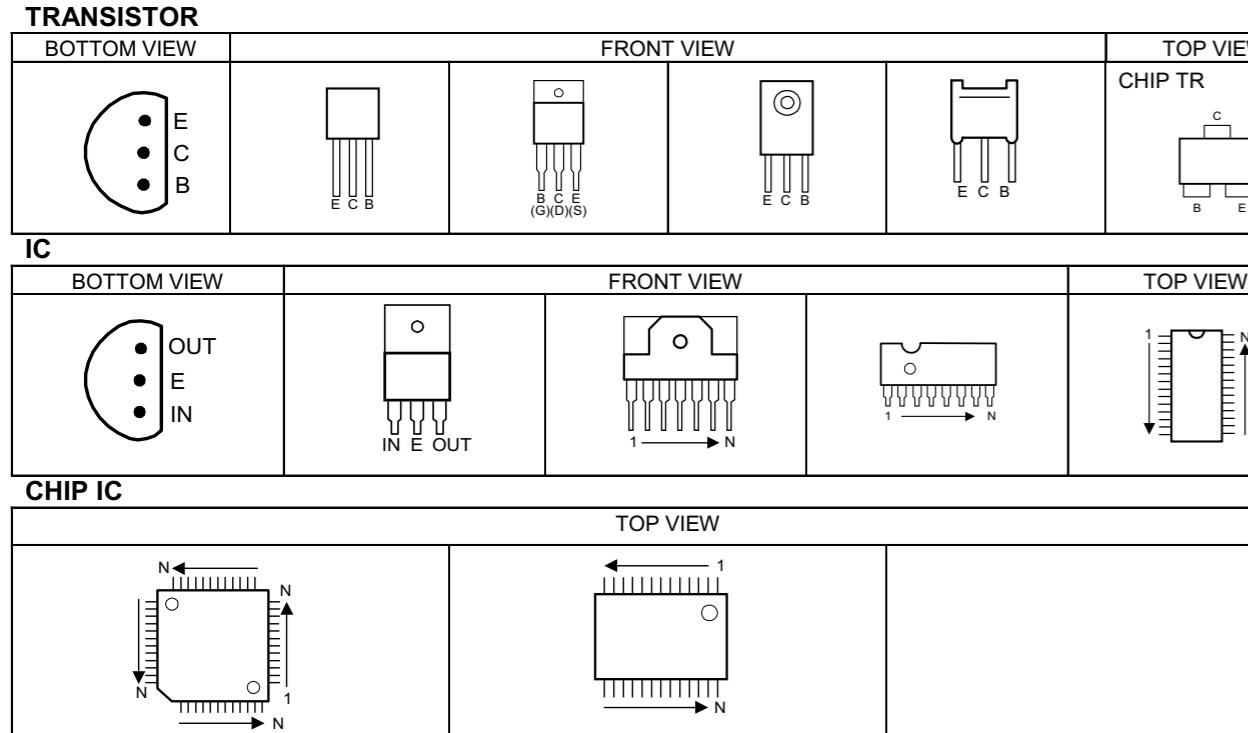
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SEMICONDUCTOR SHAPES



AV-32220_G / AV-32220_H / AV-32220_M STANDARD CIRCUIT DIAGRAM

■ NOTE ON USING CIRCUIT DIAGRAMS

1.SAFETY

The components identified by the Δ symbol and shading are critical for safety. For continued safety replace safety critical components only with manufacturers recommended parts.

2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

(1)Input signal : Color bar signal

(2)Setting positions of each knob/button and variable resistor

:Original setting position when shipped

(3)Internal resistance of tester :DC 20k Ω /V

(4)Oscilloscope sweeping time :H \Rightarrow 20 μ s/div

:V \Rightarrow 5mS/div

:Others \Rightarrow Sweeping time is specified

(5)Voltage values :All DC voltage values

* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

3.INDICATION OF PARTS SYMBOL [EXAMPLE]

●In the PW board :R1209→R209

4.INDICATIONS ON THE CIRCUIT DIAGRAM

(1)Resistors

●Resistance value

No unit :[Ω]
K :[K Ω]
M :[M Ω]

●Rated allowable power

No indication :1/10 [W]
Others :As specified

●Type

No indication :Carbon resistor
OMR :Oxide metal film resistor
MFR :Metal film resistor
MPR :Metal plate resistor
UNFR :Uninflammable resistor
FR :Fusible resistor

*Composition resistor 1/2 [W] is specified as 1/2S or Comp.

(2)Capacitors

●Capacitance value

1 or higher :[pF]
less than 1 :[μ F]

●Withstand voltage

No indication :DC50[V]
Others :DC withstand voltage [V]
AC indicated :AC withstand voltage [V]

*Electrolytic Capacitors

47/50[Example]:Capacitance value [μ F]/withstand voltage[V]

●Type	
No indication	:Ceramic capacitor
MY	:Mylar capacitor
MM	:Metallized mylar capacitor
PP	:Polypropylene capacitor
MPP	:Metallized polypropylene capacitor
MF	:Metalized film capacitor
TF	:Thin film capacitor
BP	:Bipolar electrolytic capacitor
TAN	:Tantalum capacitor
(3)Coils	
No unit	:[μ H]
Others	:As specified
(4)Power Supply	
	:B1
	:9V
	:5V

*Respective voltage values are indicated

(5)Test point

	:Test point
	:Only test point display
	:Connector
	:Wrapping or soldering
	:Receptacle

(7)Ground symbol

	:LIVE side ground
	:ISOLATED(NEUTRAL) side ground
	:EARTH ground
	:DIGITAL ground

5.NOTE FOR REPAIRING SERVICE

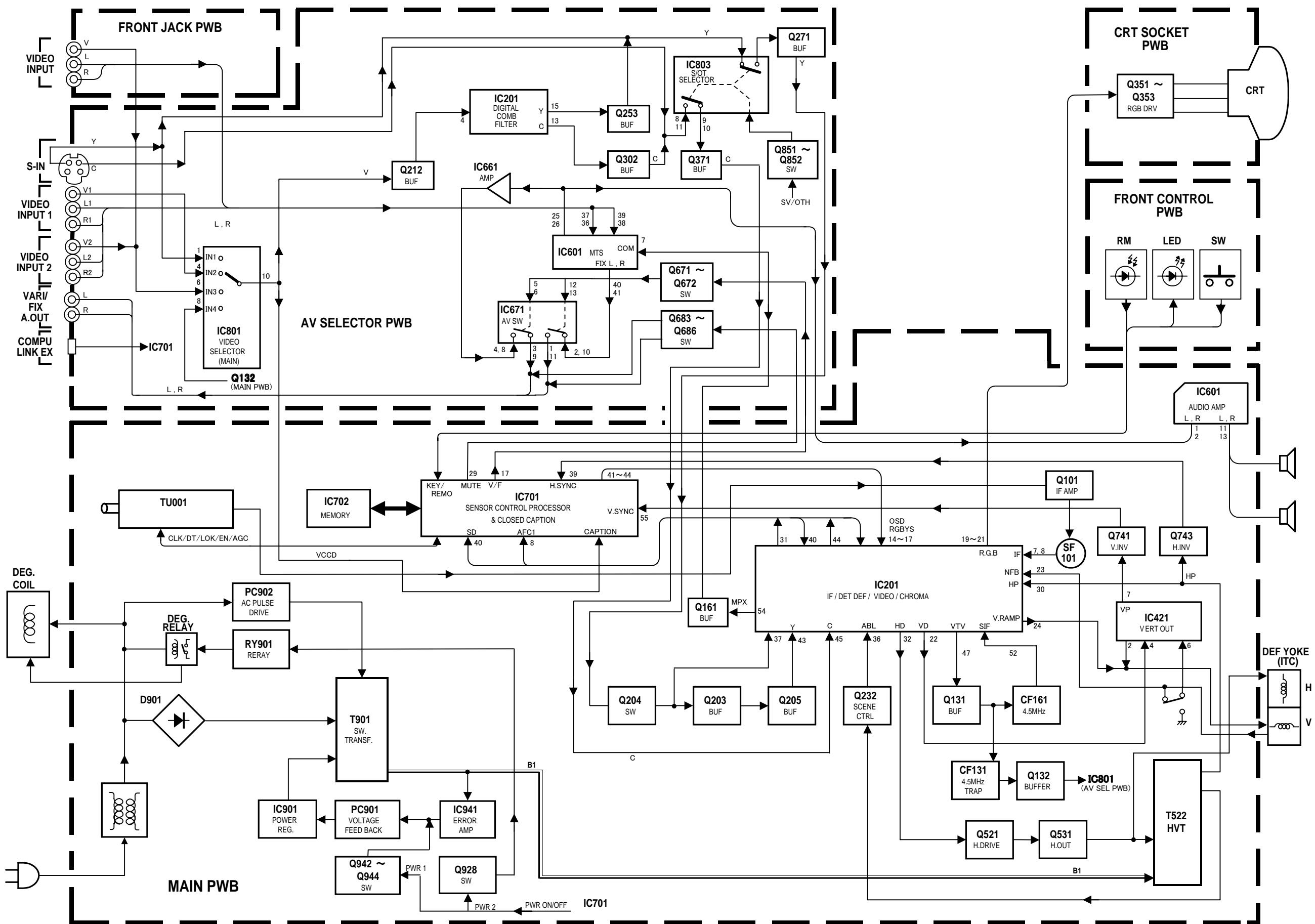
This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (⊥) side GND and the ISOLATED(NEUTRAL) : (⤒) side GND. Therefore, care must be taken for the following points.

(1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. If the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.

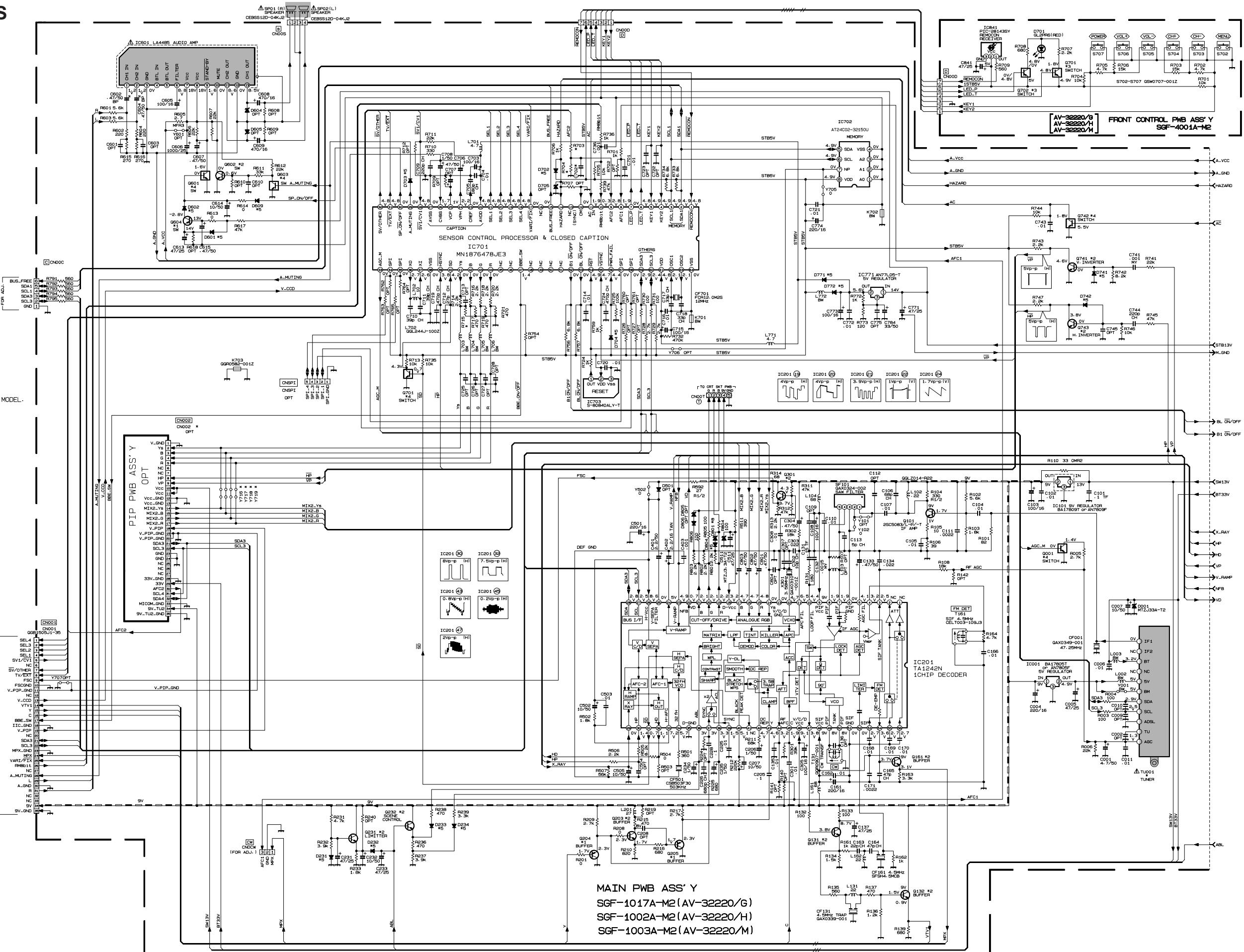
(2)Do not short between the LIVE side GND and the ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus (oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◇ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

BLOCK DIAGRAM



CIRCUIT DIAGRAMS

MAIN PWB &
FRONT CONTROL PWB
CIRCUIT DIAGRAM

MAIN PWB & CRT SOCKET PWB CIRCUIT DIAGRAM



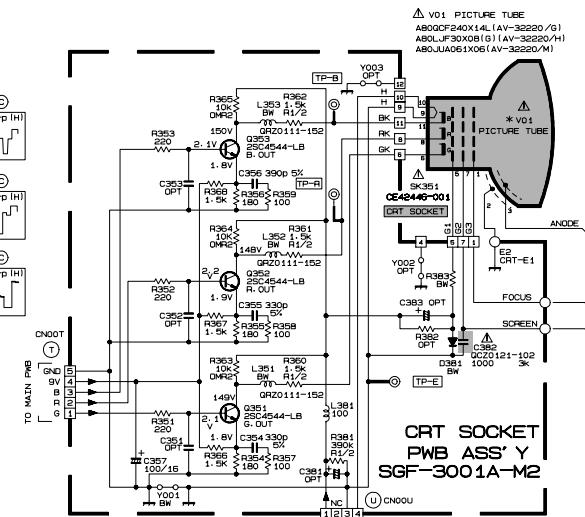
MODEL	AV- 32220/H	AV- 32220/H	AV- 32220/H
★ R431	OPT	10R1/2	15R1/2
R583	1 . 8K	560	1 . 8K
R584	1 . 5K	1 . 8K	1 . 5K
R587	3 . 3K	3 . 9K	5 . 6K
O536	PF Z0197 -755	PF Z0197 -564	PF Z0197 -755
△ C572	0 . 15H	0 . 023MH	0 . 09MH
△ L591	0 . 02 . 203	0 . 02 . 203	0 . 02 . 203
△ C531	4 . 3	-460	-410
△ C533	PF Z0196 -402	PF Z0196 -004	PF Z0196 -005
△ R524	PF Z0197 -023	PF Z0197 -022	PF Z0197 -018
△ R525	PF Z0197 -029	PF Z0197 -029	PF Z0197 -029
△ G531	PF Z0196 -1LB	PF Z0196 -1LB	PF Z0196 -1LB
△ L531	PF Z0196 -040A	PF Z0196 -040A	PF Z0196 -040A

CAUTION:
PLEASE REFER 'THE DIFFERENCE LIST'
FOR * MARKED PARTS DEPENDING ON THE MODEL

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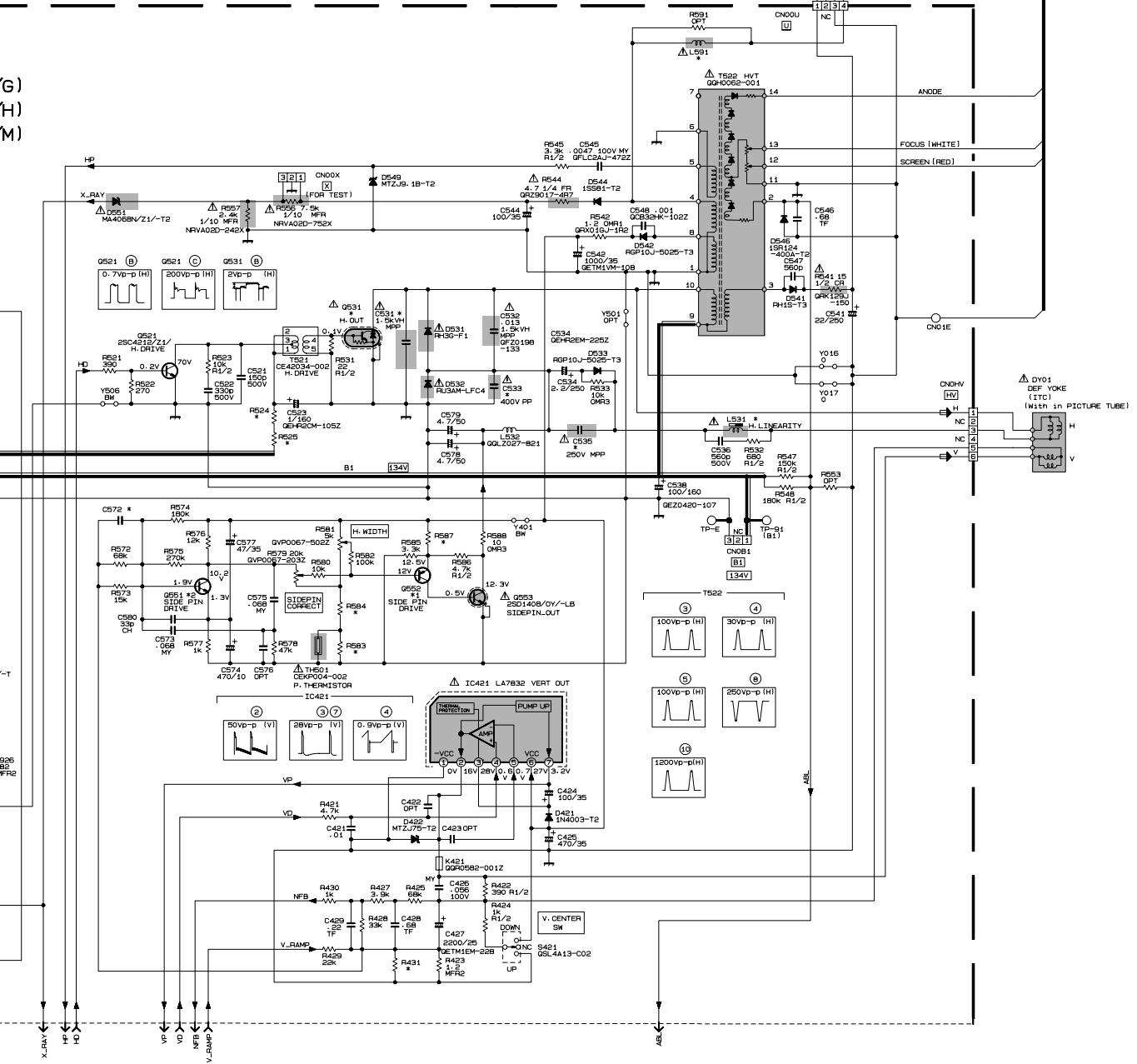
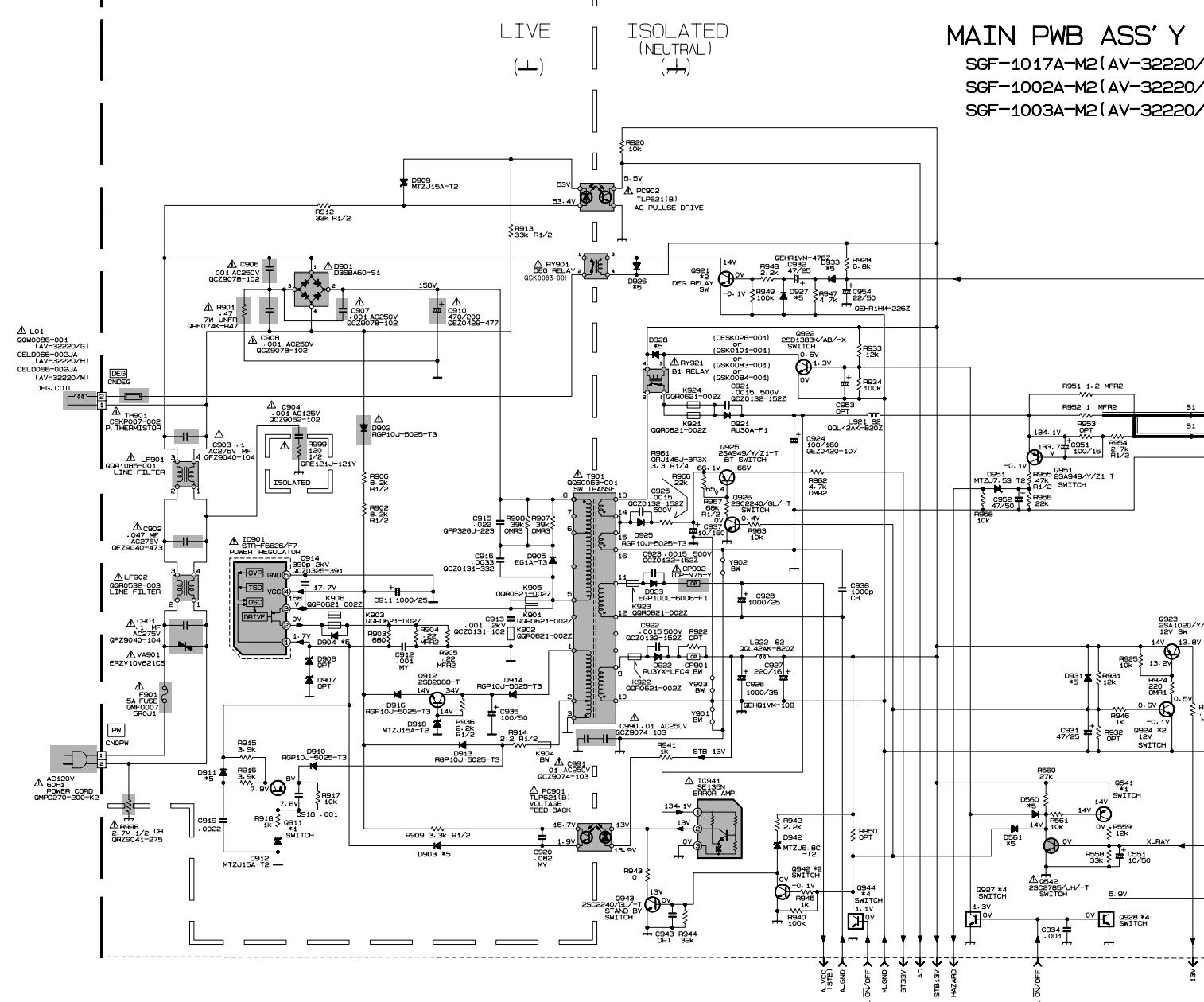
NOTE
*1 : 25A1037AK/QR-/X
*2 : 25C2412K/QR-/X
*3 : DTA124EKA-X
*4 : DTC124EKA-X
*5 : 1SS133-T2
*6 : MTZU9..1C-T2
*7 : MTZU5..6B-T2
BW : BUS WIRE
OPT : NON MOUNT [OPEN]
0 : CHIP BUS WIRE (0 a)

```

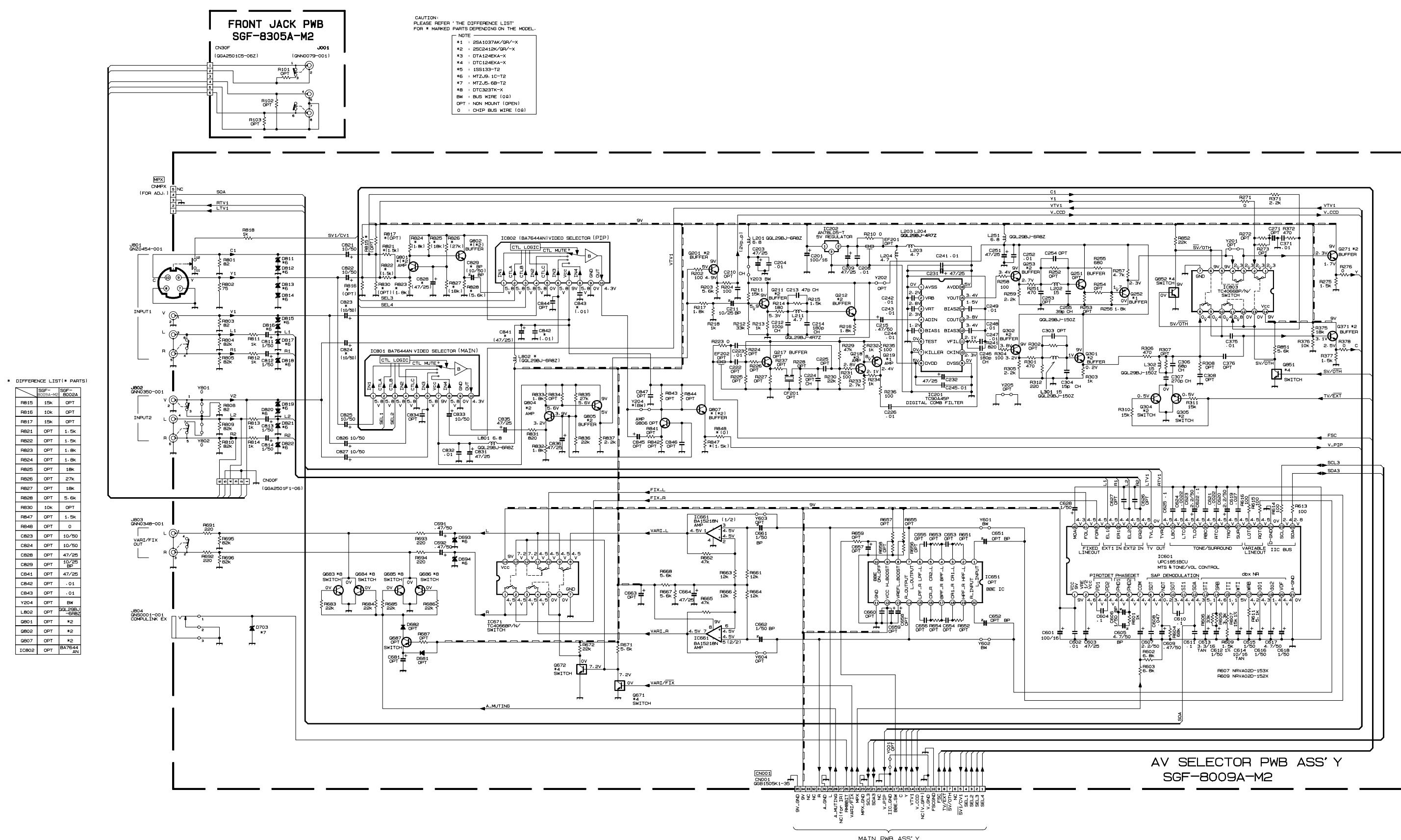


MAIN PWB ASS' Y

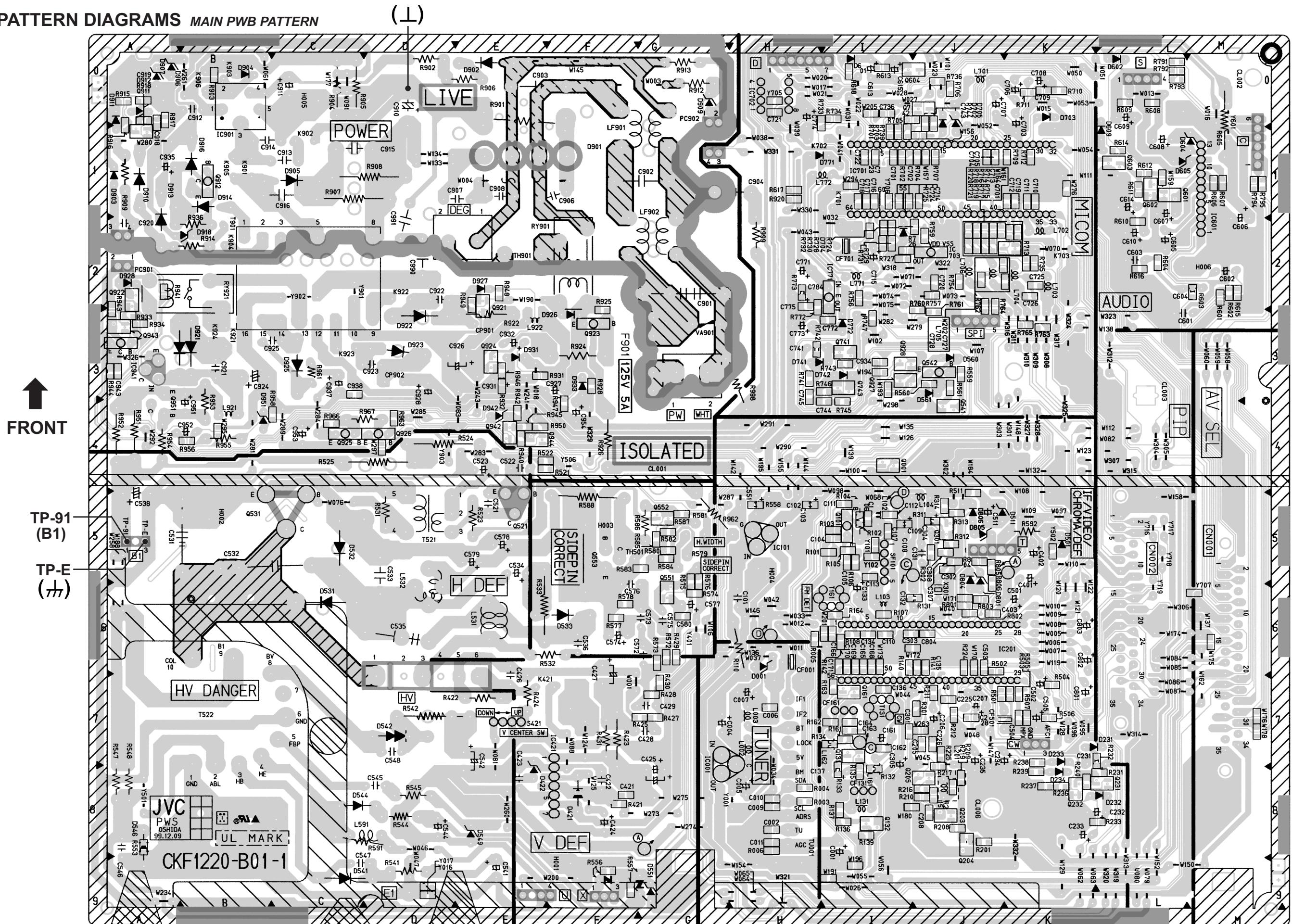
SGF-1017A-M2 (AV-32220/G)
SGF-1002A-M2 (AV-32220/H)
SGF-1003A-M2 (AV-32220/M)



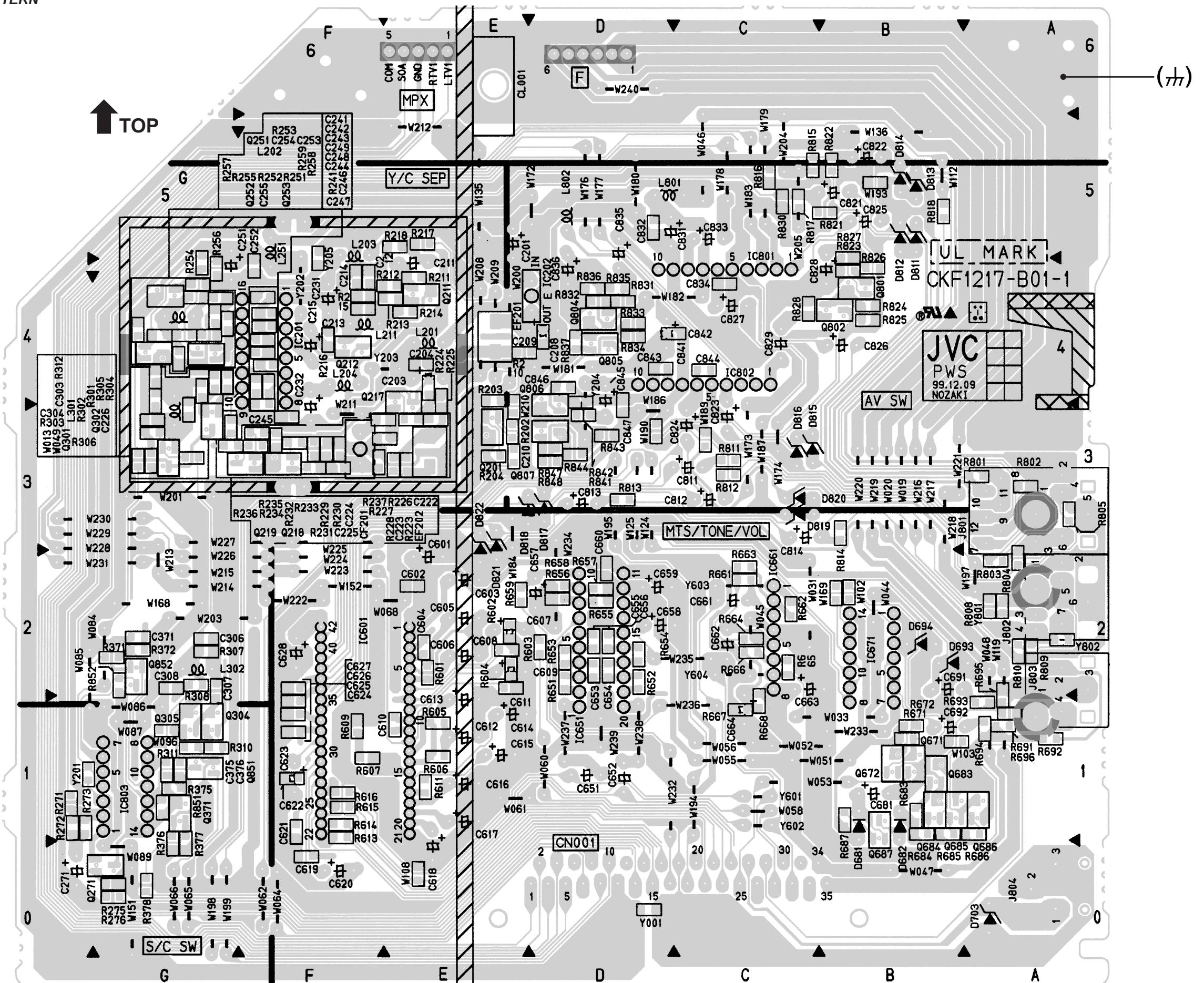
AV SELECTOR & FRONT JACK PWB CIRCUIT DIAGRAM



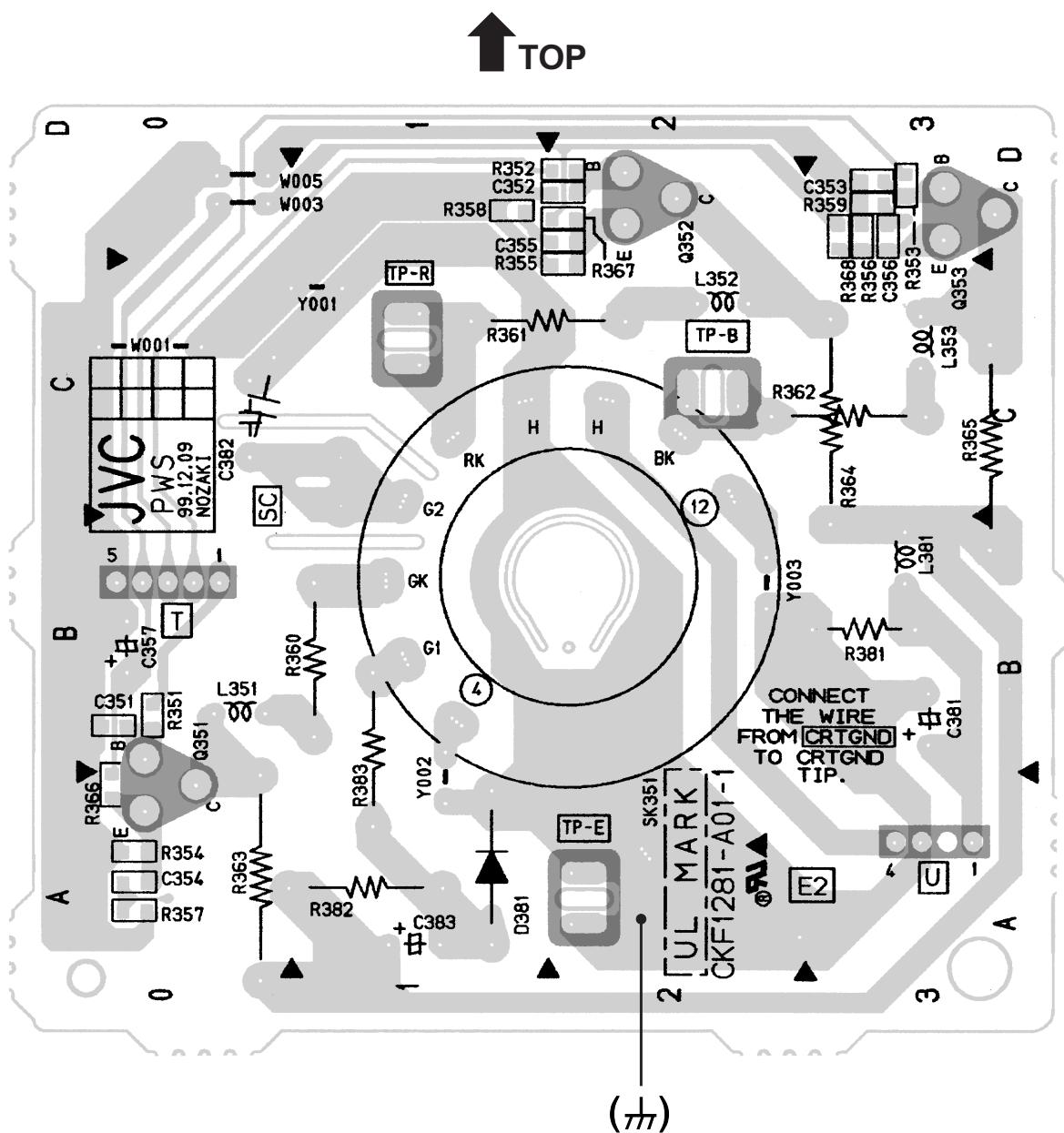
PATTERN DIAGRAMS *MAIN PWB PATTERN*



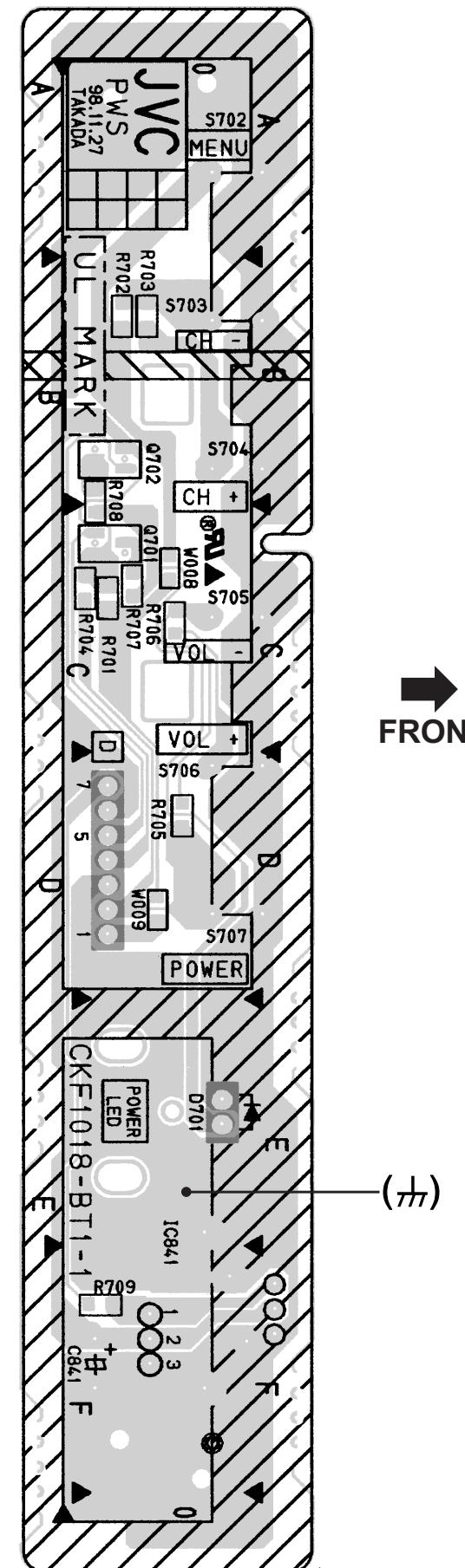
AV SELECTOR PWB PATTERN



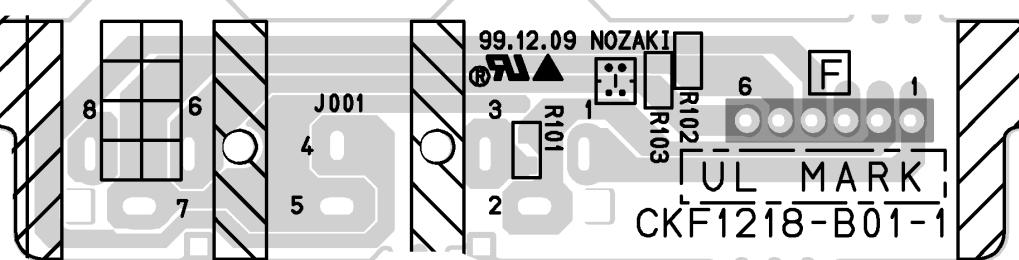
CRT SOCKET PWB PATTERN



FRONT CONTROL PWB PATTERN



FRONT-JACK PWB PATTERN



■ CHANNEL CHART (US)

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	VL	02		I
			03		
			04		
			05		
			06		
			07		
	VH	VH	08		II
			09		
			10		
			11		
×	○	MID	A	14	I
			B	15	
			C	16	
			D	17	
			E	18	
			F	19	
			G	20	
			H	21	
			I	22	
	○	SUPER	J	23	II
			K	24	
			L	25	
			M	26	
			N	27	
			O	28	
			P	29	
			Q	30	
			R	31	
			S	32	
○	○	HYPER	T	33	IV
			U	34	
			V	35	
			W	36	
			W+1	37	
			W+2	38	
			W+3	39	
			W+4	40	
			W+5	41	
			W+6	42	
×	○	HYPER	W+7	43	IV
			W+8	44	
			W+9	45	
			W+10	46	
			W+11	47	
			W+12	48	
			W+13	49	
			W+14	50	
			W+15	51	
			W+16	52	
○	○	HYPER	W+17	53	IV
			W+18	54	
			W+19	55	
			W+20	56	
			W+21	57	
			W+22	58	
			W+23	59	
			W+24	60	
			W+25	61	
			W+26	62	
○	○	ULTRA	W+27	63	IV
			W+28	64	
			W+29	65	
			W+30	66	
			W+31	67	
			W+32	68	
			W+33	69	
			W+34	70	

MODE		BAND	CHANNEL		TUNER BAND
TV	CATV		REAL	DISP.	
○	○	ULTRA	W+35	71	IV
			W+36	72	
			W+37	73	
			W+38	74	
			W+39	75	
			W+40	76	
			W+41	77	
			W+42	78	
			W+43	79	
			W+44	80	
○	○	SUB	W+45	81	I
			W+46	82	
			W+47	83	
			W+48	84	
			W+49	85	
			W+50	86	
			W+51	87	
			W+52	88	
			W+53	89	
			W+54	90	
○	○	MID	W+55	91	II
			W+56	92	
			W+57	93	
			W+58	94	
			W+59	100	
			W+60	101	
			W+61	102	
			W+62	103	
			W+63	104	
			W+64	105	
○	○	UHF	W+65	106	III
			W+66	107	
			W+67	108	
			W+68	109	
			W+69	110	
			W+70	111	
			W+71	112	
			W+72	113	
			W+73	114	
			W+74	115	
○	○	ULTRA	W+75	116	IV
			W+76	117	
			W+77	118	
			W+78	119	
			W+79	120	

PARTS LIST

CAUTION

- The parts identified by the Δ symbol are important for the safety. Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines — in the Parts No. columns will not be supplied.
- P. W. Board Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
C R	Carbon Resistor	C CAP.	Ceramic Capacitor
F R	Fusible Resistor	E CAP.	Electrolytic Capacitor
P R	Plate Resistor	M CAP.	Mylar Capacitor
V R	Variable Resistor	H V CAP.	High Voltage Capacitor
H V R	High Voltage Resistor	MF CAP.	Metalized Film Capacitor
MF R	Metal Film Resistor	MM CAP.	Metalized Mylar Capacitor
MG R	Metal Glazed Resistor	MP CAP.	Metalized Polystyrol Capacitor
MP R	Metal Plate Resistor	PP CAP.	Polypropylene Capacitor
OM R	Metal Oxide Film Resistor	PS CAP.	Polystyrol Capacitor
CMF R	Coating Metal Film Resistor	TF CAP.	Thin Film Capacitor
UNF R	Non-Flammable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH V R	Chip Variable Resistor	TAN. CAP.	Tantalum Capacitor
CH MG R	Chip Metal Glazed Resistor	CH C CAP.	Chip Ceramic Capacitor
COMP. R	Composition Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

TOLERANCES

F	G	J	K	M	N	R	H	Z	P
$\pm 1\%$	$\pm 2\%$	$\pm 5\%$	$\pm 10\%$	$\pm 20\%$	$\pm 30\%$	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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■ REMOTE CONTROL UNIT PARTS LIST	33
■ EXPLODED VIEW PARTS LIST	34
■ EXPLODED VIEW	35

AV-32220/G

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● CRT SOCKET PW BOARD ASS'Y	39
● FRONT CONTROL PW BOARD ASS'Y	39
● AV SELECTOR PW BOARD ASS'Y	40
● FRONT JACK PW BOARD ASS'Y	41

AV-32220/H

■ PRINTED WIRING BOARD PARTS LIST	
● MAIN PW BOARD ASS'Y	42
● CRT SOCKET PW BOARD ASS'Y	45
● FRONT CONTROL PW BOARD ASS'Y	45
● AV SELECTOR PW BOARD ASS'Y	45
● FRONT JACK PW BOARD ASS'Y	45

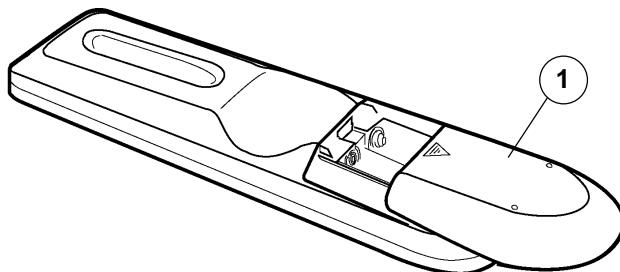
AV-32220/M

■ PRINTED WIRING BOARD PARTS LIST	
● MAIN PW BOARD ASS'Y	46
● CRT SOCKET PW BOARD ASS'Y	49
● FRONT CONTROL PW BOARD ASS'Y	49
● AV SELECTOR PW BOARD ASS'Y	49
● FRONT JACK PW BOARD ASS'Y	49
■ PACKING PARTS LIST	50
■ PACKING	50

USING P.W. BOARD & REMOTE CONTROL UNIT

Model P.W.B ASS'Y	AV-32220/G	AV-32220/H	AV-32220/M
MAIN P.W.B	SGF-1017A-M2	SGF-1002A-M2	SGF-1003A-M2
CRT SOCKET P.W.B	SGF-3001A-M2	←	←
FRONT CONTROL P.W.B	SGF-4001A-M2	←	←
AV SELECTOR P.W.B	SGF-8009A-M2	←	←
FRONT JACK P.W.B	SGF-8305A-M2	←	←
REMOTE CONTROL UNIT	RM-C306-1A	←	←

REMOTE CONTROL UNIT PARTS LIST (RM-C306-1A)



△ Ref. No.	Part No.	Part Name	Description
1	UR52EC1286A	BATTERY COVER	(RM-C306-1A)

EXPLODED VIEW PARTS LIST

AV-32220/G

△ Ref.No.	Part No.	Part Name	Description
△ V01	A80QCF240X14L	ITC TUBE(C)	(Inc.DY,PC,WEDGE)
△ L01	QQW0086-001	DEG.COIL	
△ T1522	QQH0062-001	H.V.TRANSF.	
△ 1	CM12914-C01-MA	FRONT CABINET	
2	CHGB0015-0E	BRAIDED WIRE	
3	CHGB0016-0D	BRAIDED SUB WIRE	
△ 4	CEBSS12D-04KJ2	SPEAKER	(×2)SP01,SP02
5	LC20674-001A-A	PUSH KNOB	
△ 6	CM12689-B01-VA	CHASSIS BASE	
△ 8	CM48140-A03-A	CORD CLAMP	
△ 9	QMPD270-200-K2	POWER CORD	CN11PW(Within MAIN PWB)
△ 10	LC20087-007A-A	TERMINAL BOARD	
11	QYSBSB3010Z	TAPPING SCREW	(×3)
△ 12	CM12915-F01-MA	REAR COVER	
13	QYSBSFG4016Z	TAPPING SCREW	(×11)
△ 14	LC31139-001A-A	RATING LABEL	
15	CM35983-001-H	REMOCON WINDOW	
16	CM48006-006-C	JVC MARK	

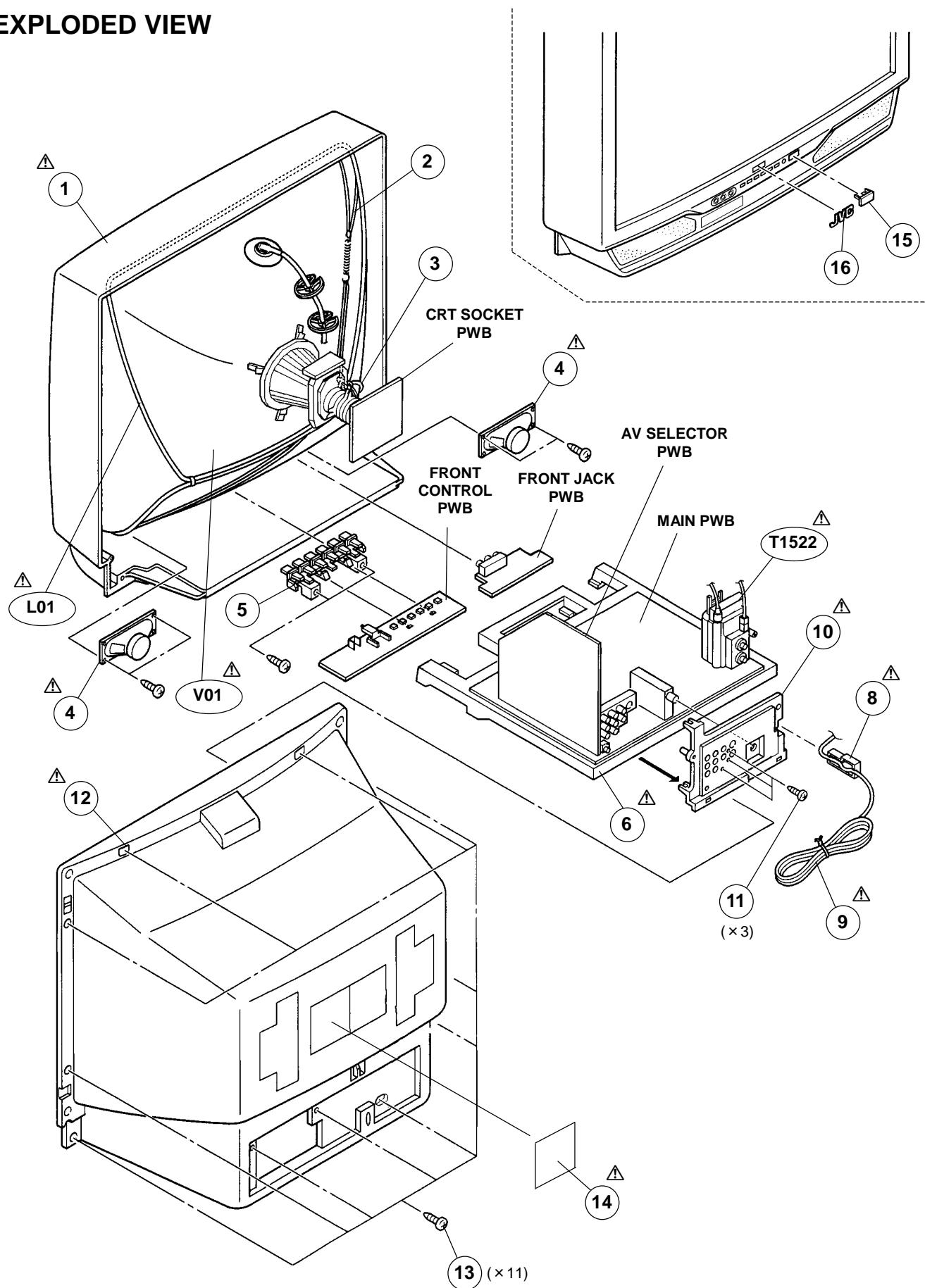
AV-32220/H

△ Ref.No.	Part No.	Part Name	Description
△ V01	A80LJF30X08(G)	ITC TUBE(C)	(Inc.DY,PC,WEDGE)
△ L01	CELD066-002JA	DEGAUSSING COIL	
△ T1522	QQH0062-001	H.V.TRANSF.	
△ 1	CM12914-C01-MA	FRONT CABINET	
2	CHGB0015-0E	BRAIDED WIRE	
3	CHGB0016-0D	BRAIDED SUB WIRE	
△ 4	CEBSS12D-04KJ2	SPEAKER	(×2)SP01,SP02
5	LC20674-001A-A	PUSH KNOB	
△ 6	CM12689-B01-VA	CHASSIS BASE	
△ 8	CM48140-A03-A	CORD CLAMP	
△ 9	QMPD270-200-K2	POWER CORD	CN11PW(Within MAIN PWB)
△ 10	LC20087-007A-A	TERMINAL BOARD	
11	QYSBSB3010Z	TAPPING SCREW	(×3)
△ 12	CM12915-F01-MA	REAR COVER	
13	QYSBSFG4016Z	TAPPING SCREW	(×11)
△ 14	LC31139-001A-A	RATING LABEL	
15	CM35983-001-H	REMOCON WINDOW	
16	CM48006-006-C	JVC MARK	

AV-32220/M

△ Ref.No.	Part No.	Part Name	Description
△ V01	M80JUA061X06	PICTURE TUBE(C)	(Inc.DY,PC,WEDGE)
△ L01	CELD066-002JA	DEGAUSSING COIL	
△ T1522	QQH0062-001	H.V.TRANSF.	
△ 1	CM12914-C01-MA	FRONT CABINET	
2	CHGB0015-0E	BRAIDED WIRE	
3	CHGB0016-0D	BRAIDED SUB WIRE	
△ 4	CEBSS12D-04KJ2	SPEAKER	(×2)SP01,SP02
5	LC20674-001A-A	PUSH KNOB	
△ 6	CM12689-B01-VA	CHASSIS BASE	
△ 8	CM48140-A03-A	CORD CLAMP	
△ 9	QMPD270-200-K2	POWER CORD	CN11PW(Within MAIN PWB)
△ 10	LC20087-007A-A	TERMINAL BOARD	
11	QYSBSB3010Z	TAPPING SCREW	(×3)
△ 12	CM12915-F01-MA	REAR COVER	
13	QYSBSFG4016Z	TAPPING SCREW	(×11)
△ 14	LC31139-001A-A	RATING LABEL	
15	CM35983-001-H	REMOCON WINDOW	
16	CM48006-006-C	JVC MARK	

EXPLODED VIEW



AV-32220/G

PRINTED WIRING BOARD PARTS LIST

■ MAIN PW BOARD ASS'Y (SGF-1017A-M2)

△ Symbol No.	Part No.	Part Name	Description
VARIABLE RESISTOR			
R1579	QVP0067-203Z	V R(SIDEPIN CORRECT)	20kΩ
R1581	QVP0067-502Z	V R(H.WIDTH)	5kΩ

△ Symbol No.	Part No.	Part Name	Description
RESISTOR			
R1003-04	NRSA02J-101X	MG R	100Ω 1/10W J
R1005	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1006	NRSA02J-223X	MG R	22kΩ 1/10W J
R1101	NRSA02J-820X	MG R	82Ω 1/10W J
R1102	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1103	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1104	QRE121J-331Y	C R	330Ω 1/2W J
R1105	NRSA02J-100X	MG R	10Ω 1/10W J
R1106	NRSA02J-390X	MG R	39Ω 1/10W J
R1108	NRSA02J-183X	MG R	18kΩ 1/10W J
R1110	QRL029J-330	OM R	33Ω 2W J
R1131	NRSA02J-181X	MG R	180Ω 1/10W J
R1132-33	NRSA02J-101X	MG R	100Ω 1/10W J
R1134	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R1135	NRSA02J-561X	MG R	560Ω 1/10W J
R1136	NRSA02J-122X	MG R	1.2kΩ 1/10W J
R1137	NRSA02J-471X	MG R	470Ω 1/10W J
R1139	NRSA02J-681X	MG R	680Ω 1/10W J
R1161-62	NRSA02J-102X	MG R	1kΩ 1/10W J
R1163	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1164	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1201	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R1208	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R1209	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1210	NRSA02J-821X	MG R	820Ω 1/10W J
R1211	NRSA02J-683X	MG R	68kΩ 1/10W J
R1212	NRSA02J-224X	MG R	220kΩ 1/10W J
R1215	NRSA02J-471X	MG R	470Ω 1/10W J
R1216	NRSA02J-681X	MG R	680Ω 1/10W J
R1217	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1225	NRSA02J-681X	MG R	680Ω 1/10W J
R1231	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1232	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1233	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1236	NRSA02J-471X	MG R	470Ω 1/10W J
R1237	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1238	NRSA02J-471X	MG R	470Ω 1/10W J
R1239	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1301	NRSA02J-393X	MG R	39kΩ 1/10W J
R1302	NRSA02J-183X	MG R	18kΩ 1/10W J
R1311-12	NRSA02J-473X	MG R	47kΩ 1/10W J
R1313	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1314	NRSA02J-680X	MG R	68Ω 1/10W J
R1421	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1422	QRE121J-391Y	C R	390Ω 1/2W J
R1423	QRL029J-1R2	MF R	1.2Ω 2W J
R1424	QRE121J-102Y	C R	1kΩ 1/2W J
R1425	NRSA02J-683X	MG R	68kΩ 1/10W J
R1427	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1428	NRSA02J-333X	MG R	33kΩ 1/10W J
R1429	NRSA02J-223X	MG R	22kΩ 1/10W J
R1430	NRSA02J-102X	MG R	1kΩ 1/10W J
R1501	NRSA02J-361X	MG R	360Ω 1/10W J
R1502	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1504	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R1505	NRSA02J-822X	MG R	8.2kΩ 1/10W J
R1506	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1507	NRSA02J-563X	MG R	56kΩ 1/10W J
R1511	NRSA02J-391X	MG R	390Ω 1/10W J
R1521	NRSA02J-391X	MG R	390Ω 1/10W J
R1522	NRSA02J-271X	MG R	270Ω 1/10W J
R1523	QRE121J-103Y	C R	10kΩ 1/2W J

△ Symbol No.	Part No.	Part Name	Description
RESISTOR			
R1524-25	QRG029J-102	OM R	1kΩ 2W J
R1531	QRE121J-220Y	C R	22Ω 1/2W J
R1532	QRE121J-681Y	C R	680Ω 1/2W J
R1533	QRL039J-103	OM R	10kΩ 3W J
△ R1541	QRK129J-150	C R	15Ω 1/2W J
R1542	QRX01GJ-1R2	MF R	1.2Ω 1W J
△ R1544	QRZ017-4R7	F R	4.7Ω 1/4W J
R1545	QRE121J-332Y	C R	3.3kΩ 1/2W J
R1547	QRE121J-154Y	C R	150kΩ 1/2W J
R1548	QRE121J-184Y	C R	180kΩ 1/2W J
△ R1556	NRVA02D-752X	MF R	7.5kΩ 1/10W D
△ R1557	NRVA02D-242X	MF R	2.4kΩ 1/10W D
R1558	NRSA02J-333X	MG R	33kΩ 1/10W J
R1559	NRSA02J-123X	MG R	12kΩ 1/10W J
R1560	NRSA02J-273X	MG R	27kΩ 1/10W J
R1561	NRSA02J-103X	MG R	10kΩ 1/10W J
R1572	NRSA02J-683X	MG R	68kΩ 1/10W J
R1573	NRSA02J-153X	MG R	15kΩ 1/10W J
R1574	NRSA02J-184X	MG R	180kΩ 1/10W J
R1575	NRSA02J-274X	MG R	270kΩ 1/10W J
R1576	NRSA02J-123X	MG R	12kΩ 1/10W J
R1577	NRSA02J-102X	MG R	1kΩ 1/10W J
R1578	NRSA02J-473X	MG R	47kΩ 1/10W J
R1580	NRSA02J-103X	MG R	10kΩ 1/10W J
R1582	NRSA02J-104X	MG R	100kΩ 1/10W J
R1583	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1584	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R1585	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1586	QRE121J-472Y	C R	4.7kΩ 1/2W J
R1587	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1588	QRL039J-100	OM R	10Ω 3W J
R1592	QRE121J-270Y	C R	27Ω 1/2W J
R1601	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1602	NRSA02J-221X	MG R	22Ω 1/10W J
R1603	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1604	NRSA02J-221X	MG R	22Ω 1/10W J
R1605	QRL039J-2R7	MF R	2.7Ω 3W J
R1606-07	NRSA02J-223X	MG R	22kΩ 1/10W J
R1611	NRSA02J-333X	MG R	33kΩ 1/10W J
R1612	NRSA02J-223X	MG R	22kΩ 1/10W J
R1613-14	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R1615-16	NRSA02J-271X	MG R	270Ω 1/10W J
R1617	NRSA02J-473X	MG R	47kΩ 1/10W J
R1701	NRSA02J-102X	MG R	1kΩ 1/10W J
R1704	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R1705	NRSA02J-103X	MG R	10kΩ 1/10W J
R1706	NRSA02J-102X	MG R	1kΩ 1/10W J
R1710	NRSA02J-331X	MG R	330Ω 1/10W J
R1711	NRSA02J-223X	MG R	22kΩ 1/10W J
R1713	NRSA02J-103X	MG R	10kΩ 1/10W J
R1714	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1715	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R1716	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1717	NRSA02J-471X	MG R	470Ω 1/10W J
R1718	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1719	NRSA02J-471X	MG R	470Ω 1/10W J
R1720	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1721	NRSA02J-471X	MG R	470Ω 1/10W J
R1724	NRSA02J-102X	MG R	1kΩ 1/10W J
R1725	NRSA02J-104X	MG R	100kΩ 1/10W J
R1728-29	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1730-31	NRSA02J-101X	MG R	10Ω 1/10W J
R1732	NRSA02J-474X	MG R	470kΩ 1/10W J
R1733-34	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R1735	NRSA02J-103X	MG R	10kΩ 1/10W J
R1736	NRSA02J-102X	MG R	1kΩ 1/10W J
R1739	NRSA02J-473X	MG R	47kΩ 1/10W J

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△	Symbol No.	Part No.	Part Name	Description	△	Symbol No.	Part No.	Part Name	Description
RESISTOR									
	R1741	NRSA02J-223X	MG R	22kΩ 1/10W J		C1108	QETN1CM-107Z	E CAP.	100μF 16V M
	R1742	NRSA02J-822X	MG R	8.2kΩ 1/10W J		C1110	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1743	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1111	NCB21HK-222X	C CAP.	2200pF 50V K
	R1744	NRSA02J-103X	MG R	10kΩ 1/10W J		C1113	NDC21HJ-5R0X	C CAP.	5.0pF 50V J
	R1745	NRSA02J-473X	MG R	47kΩ 1/10W J		C1131	QFV71HJ-154Z	MF CAP.	0.15μF 50V J
	R1746	NRSA02J-103X	MG R	10kΩ 1/10W J		C1132	QFN31HJ-152Z	M CAP.	1500pF 50V J
	R1747	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1133	QETN1HM-474Z	E CAP.	0.47μF 50V M
	R1756-57	NRSA02J-682X	MG R	6.8kΩ 1/10W J		C1134	NCB21HK-223X	C CAP.	0.022μF 50V K
	R1759	NRSA02J-102X	MG R	1kΩ 1/10W J		C1135	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1772	NRSA02J-102X	MG R	1kΩ 1/10W J		C1137	QETN1EM-476Z	E CAP.	47μF 25V M
	R1773	NRSA02J-121X	MG R	120Ω 1/10W J		C1161	QETN1CM-227Z	E CAP.	220μF 16V M
	R1791-95	NRSA02J-561X	MG R	560Ω 1/10W J		C1162	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1801-03	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1163	NDC21HJ-220X	C CAP.	22pF 50V J
△	R1804-06	NRSA02J-101X	MG R	100Ω 1/10W J		C1164-65	NDC21HJ-470X	C CAP.	47pF 50V J
△	R1901	QRF074K-R47	UNF R	0.47Ω 7W K		C1166	NCB21HK-103X	C CAP.	0.01μF 50V K
△	R1902	QRE121J-822Y	C R	8.2kΩ 1/2W J		C1168-70	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1903	NRSA02J-681X	MG R	680Ω 1/10W J		C1171	NCB21HK-222X	C CAP.	2200pF 50V K
	R1904-05	QTO29J-R22	MF R	0.22Ω 2W J		C1205	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1906	QRE121J-822Y	C R	8.2kΩ 1/2W J		C1206	QETN1HM-105Z	E CAP.	1μF 50V M
	R1907-08	QRL039J-393	OM R	39kΩ 3W J		C1207	QETN1HM-106Z	E CAP.	10μF 50V M
	R1909	QRE121J-332Y	C R	3.3kΩ 1/2W J		C1225	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1912-13	QRE121J-333Y	C R	33kΩ 1/2W J		C1226	NDC21HJ-681X	C CAP.	680pF 50V J
	R1914	QRE121J-2R2Y	C R	2.2Ω 1/2W J		C1228	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1915	NRSA02J-392X	MG R	3.9kΩ 1/10W J		C1231	QETN1EM-476Z	E CAP.	47μF 25V M
	R1916	NRSA02J-392X	MG R	3.9kΩ 1/10W J		C1232	QETN1HM-106Z	E CAP.	10μF 50V M
	R1917	NRSA02J-103X	MG R	10kΩ 1/10W J		C1233	QETN1EM-476Z	E CAP.	47μF 25V M
	R1918	NRSA02J-102X	MG R	1kΩ 1/10W J		C1234-35	QETN1HM-105Z	E CAP.	1μF 50V M
	R1920	NRSA02J-103X	MG R	10kΩ 1/10W J		C1301	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1924	QRG01GJ-221	OM R	220Ω 1W J		C1302	NDC21HJ-100X	C CAP.	10pF 50V J
	R1925	NRSA02J-103X	MG R	10kΩ 1/10W J		C1303	NCB21HK-223X	C CAP.	0.022μF 50V K
	R1926	QRT029J-R82	MF R	0.82Ω 2W J		C1304	QETN1HM-474Z	E CAP.	0.47μF 50V M
	R1928	NRSA02J-682X	MG R	6.8kΩ 1/10W J		C1305	QETN1CM-107Z	E CAP.	100μF 16V M
	R1931	NRSA02J-123X	MG R	12kΩ 1/10W J		C1308	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1933	NRSA02J-123X	MG R	12kΩ 1/10W J		C1401	QETN1HM-225Z	E CAP.	2.2μF 50V M
	R1934	NRSA02J-104X	MG R	100kΩ 1/10W J		C1402	QBHC1CK-225Z	TAN.CAP.	2.2μF 16V K
	R1936	QRE121J-222Y	C R	2.2kΩ 1/2W J		C1403	NCB21HK-102X	C CAP.	1000pF 50V K
	R1940	NRSA02J-104X	MG R	100kΩ 1/10W J		C1421	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1941	NRSA02J-102X	MG R	1kΩ 1/10W J		C1424	QETN1VM-107Z	E CAP.	100μF 35V M
	R1942	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1425	QETN1VM-477Z	E CAP.	470μF 35V M
	R1943	NRSA02J-OROX	MG R	0.0Ω 1/10W J		C1426	QFLC2AK-563Z	M CAP.	0.056μF 100V K
	R1944	NRSA02J-393X	MG R	39kΩ 1/10W J		C1427	QETM1EM-228	E CAP.	2200μF 25V M
△	R1945-46	NRSA02J-102X	MG R	1kΩ 1/10W J		C1428	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
△	R1947	NRSA02J-472X	MG R	4.7kΩ 1/10W J		C1429	QFV71HJ-224Z	MF CAP.	0.22μF 50V J
	R1948	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1501	QETN1CM-227Z	E CAP.	220μF 16V M
	R1949	NRSA02J-104X	MG R	100kΩ 1/10W J		C1502	QETN1HM-106Z	E CAP.	10μF 50V M
	R1951	QRT029J-1R2	MF R	1.2Ω 2W J		C1503	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1952	QRT029J-1R0	MF R	1.0Ω 2W J		C1505	QETN1HM-106Z	E CAP.	10μF 50V M
	R1954	QRE121J-272Y	C R	2.7kΩ 1/2W J		C1511	QETN1EM-476Z	E CAP.	47μF 25V M
	R1955	QRE121J-473Y	C R	47kΩ 1/2W J		C1521	QCB32HK-151Z	C CAP.	150pF 500V K
	R1956	NRSA02J-223X	MG R	22kΩ 1/10W J		C1522	QCB32HK-331Z	C CAP.	330pF 500V K
	R1961	QRJ146J-3R3X	C R	3.3Ω 1/4W J		C1523	QEH2ZCM-105Z	E CAP.	1μF 160V M
	R1962	QRL029J-472	OM R	4.7kΩ 2W J		△ C1531	QFZ0196-502	MPP CAP.	5000pF 1.5kVH ±3%
	R1963	NRSA02J-103X	MG R	10kΩ 1/10W J		△ C1532	QFZ0198-133	MPP CAP.	0.13F1.5kVH ±3%
	R1966	NRSA02J-223X	MG R	22kΩ 1/10W J		△ C1533	QFP32GJ-183	PP CAP.	0.018μF 400V J
	R1967	QRE121J-683Y	C R	68kΩ 1/2W J		△ C1534	QEH2EM-225Z	E CAP.	2.2μF 250V M
△	R1998	QRZ9041-275	C R	2.7M 1/2W K		△ C1535	QFZ0197-754	MPP CAP.	0.75μF 250V J
△	R1999	QRE121J-121Y	C R	120Ω 1/2W J		C1536	QCB32HK-561Z	C CAP.	560pF 500V K
CAPACITOR									
	C1001	QETN1HM-475Z	E CAP.	4.7μF 50V M		C1538	QE20420-107	E CAP.	100μF 160V M
	C1004	QETN1CM-227Z	E CAP.	220μF 16V M		C1541	QETN2EM-226Z	E CAP.	22μF 250V M
	C1005	QETN1EM-476Z	E CAP.	47μF 25V M		C1542	QETM1VM-108	E CAP.	1000μF 35V M
	C1006	NCB21HK-103X	C CAP.	0.01μF 50V K		C1544	QETN1VM-107Z	E CAP.	100μF 35V M
	C1007	QETN1HM-106Z	E CAP.	10μF 50V M		C1545	QFN32AJ-472Z	M CAP.	4700pF 100V J
	C1011	NCB21HK-103X	C CAP.	0.01μF 50V K		C1546	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
	C1101	QFV71HJ-104Z	MF CAP.	0.1μF 50V J		C1547	QCB32HK-561Z	C CAP.	560pF 500V K
	C1102	NCB21HK-103X	C CAP.	0.01μF 50V K		C1548	QCB32HK-102Z	C CAP.	1000pF 500V K
	C1103	QETN1CM-107Z	E CAP.	100μF 16V M		C1551	QETN1HM-106Z	E CAP.	10μF 50V M
C1104-05	NCB21HK-103X	C CAP.	0.01μF 50V K		C1552	QFLC1HJ-393Z	M CAP.	0.039μF 50V J	
	C1106	NDC21HJ-680X	C CAP.	68pF 50V J		C1573	QFLC1HJ-683Z	M CAP.	0.068μF 50V J
	C1107	NCB21HK-103X	C CAP.	0.01μF 50V K		C1574	QETN1AM-477Z	E CAP.	470μF 10V M
						C1575	QFLC1HJ-683Z	M CAP.	0.068μF 50V J
						C1577	QETN1VM-476Z	E CAP.	47μF 35V M
						C1578-79	QEM61HK-475Z	E CAP.	4.7μF 50V K
						C1580	NDC21HJ-330X	C CAP.	33pF 50V J

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△	Symbol No.	Part No.	Part Name	Description			△	Symbol No.	Part No.	Part Name	Description		
CAPACITOR													
C1602	QENC1HM-474Z	BP E CAP.	0.47μF	50V	M		T1521	CE42034-002	H.DRIVE TRANSF.				
C1604	QENC1HM-474Z	BP E CAP.	0.47μF	50V	M		△ T1522	QH0062-001	H.V.TRANSF.				
C1605	QETN1CM-107Z	E CAP.	100μF	16V	M		△ T1901	QQS0063-001	SWITCH.TRANSF.				
C1606	QETN1EM-108Z	E CAP.	1000μF	25V	M								
C1607	QETN1HM-474Z	E CAP.	0.47μF	50V	M								
C1608-09	QETN1CM-477Z	E CAP.	470μF	16V	M								
C1613	QETN1EM-476Z	E CAP.	47μF	25V	M								
C1614	QETN1HM-106Z	E CAP.	10μF	50V	M								
C1615	QETN1HM-474Z	E CAP.	0.47μF	50V	M								
C1701	NCB21HK-103X	C CAP.	0.01μF	50V	K		L1102	QLLZ014-R22	PEAKING COIL	0.22μH			
C1703	QETN1CM-107Z	E CAP.	100μF	16V	M		L1104	QLL29BJ-680Z	PEAKING COIL	68μH			
C1704	NCB21HK-103X	C CAP.	0.01μF	50V	K		L1131	QLL29BJ-220Z	PEAKING COIL	22μH			
C1705	NDC21HJ-181X	C CAP.	180pF	50V	J		L1161	QLL29BJ-680Z	PEAKING COIL	68μH			
C1706	QETN1HM-474Z	E CAP.	0.47μF	50V	M		L1162	QLL29BJ-220Z	PEAKING COIL	22μH			
C1708	QETN1HM-105Z	E CAP.	1μF	50V	M		L1201	QLL244K-270Z	PEAKING COIL	27μH			
C1709	NDC21HJ-221X	C CAP.	220pF	50V	J		△ L1531	CE42116-00A	LINIARITY COIL				
C1710-11	NDC21HJ-390X	C CAP.	39pF	50V	J		L1532	QLL2027-821	CHOKE COIL				
C1712	NDC21HJ-270X	C CAP.	27pF	50V	J								
C1714	NCB21HK-103X	C CAP.	0.01μF	50V	K		△ L1591	QLLZ026-410	HEATER CHOKE	41μH			
C1715	QETN1CM-107Z	E CAP.	100μF	16V	M		L1701	QLL29BJ-4R7Z	PEAKING COIL	4.7μH			
C1716	NCB21HK-103X	C CAP.	0.01μF	50V	K		L1702	QLL244J-100Z	PEAKING COIL	10μH			
C1717-18	NDC21HJ-330X	C CAP.	33pF	50V	J		L1771	QLL29BJ-4R7Z	PEAKING COIL	4.7μH			
C1719	NDC21HJ-471X	C CAP.	470pF	50V	J		L1921-22	QLL42AK-820Z	CHOKE COIL				
C1720-21	NCB21HK-103X	C CAP.	0.01μF	50V	K								
C1724	NDC21HJ-471X	C CAP.	470pF	50V	J								
C1736	NCB21HK-102X	C CAP.	1000pF	50V	K								
C1741	QFN31HJ-102Z	M CAP.	1000pF	50V	J								
C1743	NCB21HK-103X	C CAP.	0.01μF	50V	K								
C1744	NDC21HJ-221X	C CAP.	220pF	50V	J								
C1771	QETN1EM-476Z	E CAP.	47μF	25V	M								
C1772	NCB21HK-103X	C CAP.	0.01μF	50V	K								
C1773	QETN1CM-107Z	E CAP.	100μF	16V	M								
C1774	QETN1CM-227Z	E CAP.	220μF	16V	M								
C1784	QETN1HM-336Z	E CAP.	33μF	50V	M								
C1801-03	QETN1HM-474Z	E CAP.	0.47μF	50V	M								
△ C1901	QFZ9040-104	MF CAP.	0.1μFAC275V	M									
△ C1902	QFZ9040-473	MF CAP.	0.047μFAC275V	M									
△ C1903	QFZ9040-104	MF CAP.	0.1μFAC275V	M									
△ C1904	QCZ9052-102	C CAP.	1000pFAC125V	M									
△ C1906	QCZ9078-102	C CAP.	1000pFAC250V	M									
△ C1907	QCZ9078-102	C CAP.	1000pFAC250V	M									
△ C1908	QCZ9078-102	C CAP.	1000pFAC250V	M									
△ C1910	QE0429-477	E CAP.	470μF	200V	M								
C1911	QETN1EM-108Z	E CAP.	1000μF	25V	M								
C1912	QFN31HJ-102Z	M CAP.	1000pF	50V	J								
C1913	QCZ0131-102	C CAP.	1000pF	2KV	K								
C1914	QCZ025-391	C CAP.	3900pF	2KV	K								
C1915	QFP32GJ-223	PP CAP.	0.022μF	400V	J								
C1916	QCZ0131-332	C CAP.	3300pF	2KV	K								
C1918	NCB21HK-102X	C CAP.	1000pF	50V	K								
C1919	NCB21HK-222X	C CAP.	2200pF	50V	K								
C1920	QFLC1HJ-823Z	M CAP.	0.082μF	50V	J								
C1921-23	QCZ0132-152Z	C CAP.	1500pF	500V	K								
C1924	QEZ0420-107	E CAP.	100μF	160V	M								
C1925	QCZ0132-152Z	C CAP.	1500pF	500V	K								
C1926	QEHQ1VM-108	E CAP.	1000μF	35V	M								
C1927	QEHR1CM-227Z	E CAP.	220μF	16V	M								
C1928	QETN1EM-108Z	E CAP.	1000μF	25V	M								
C1931	QETN1EM-476Z	E CAP.	47μF	25V	M								
C1932	QEHR1VM-476Z	E CAP.	47μF	35V	M								
C1934	NCB21HK-102X	C CAP.	1000pF	50V	K								
C1935	QETN1HM-107Z	E CAP.	100μF	50V	M								
C1937	QETN2CM-106Z	E CAP.	10μF	160V	M								
C1938	NDC21HJ-102X	C CAP.	1000pF	50V	J								
C1951	QETN1CM-107Z	E CAP.	100μF	16V	M								
C1952	QETN1HM-476Z	E CAP.	47μF	50V	M								
C1954	QEHR1HM-226Z	E CAP.	22μF	50V	M								
△ C1990	QCZ9074-103	C CAP.	0.01μFAC250V	M									
△ C1991	QCZ9074-103	C CAP.	0.01μFAC250V	M									
TRANSFORMER													
T1131	QQR0907-001	IFT											
T1161	CELT003-109J3	S.I.F.TRANSF.											
TRANSFORMER													
TRANSISTOR													
Q1001	DTC124EKA-X	DIGI. TRANSISTOR											
Q1101	2SC5083/L-P/-T	SI. TRANSISTOR											
Q1131-32	2SC2412K/QR/-X	SI. TRANSISTOR											
Q1161	2SC2412K/QR/-X	SI. TRANSISTOR											
Q1203	2SC2412K/QR/-X	SI. TRANSISTOR											
Q1204-05	ZSA1037AK/QR/-X	SI. TRANSISTOR											
Q1231-32	2SC2412K/QR/-X	SI. TRANSISTOR											
Q1301	2SC2412K/QR/-X	SI. TRANSISTOR											

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△	Symbol No.	Part No.	Part Name	Description
TRANSISTOR				
△	Q1521	2SC4212/Z1/	SI. TRANSISTOR	
△	Q1531	2SD2559-LB	SI. TRANSISTOR	H. OUT
△	Q1541	2SA1037AK/QR/-X	SI. TRANSISTOR	
△	Q1542	2SC2785/JH/-T	SI. TRANSISTOR	
△	Q1551	2SC2412K/QR/-X	SI. TRANSISTOR	
△	Q1552	2SA1037AK/QR/-X	SI. TRANSISTOR	
△	Q1553	2SD1408/Y/-LB	SI. TRANSISTOR	
△	Q1601	DTC124EKA-X	DIGI. TRANSISTOR	
Q1602	2SC2412K/QR/-X	SI. TRANSISTOR		
Q1603	DTC124EKA-X	DIGI. TRANSISTOR		
Q1604	2SA1037AK/QR/-X	SI. TRANSISTOR		
Q1701	DTC124EKA-X	DIGI. TRANSISTOR		
Q1741	2SC2412K/QR/-X	SI. TRANSISTOR		
Q1742	DTC124EKA-X	DIGI. TRANSISTOR		
Q1743	2SC2412K/QR/-X	SI. TRANSISTOR		
Q1911	2SA1037AK/QR/-X	SI. TRANSISTOR		
Q1912	2SD2088-T	SI. TRANSISTOR		
Q1921	2SC2412K/QR/-X	SI. TRANSISTOR		
Q1922	2SD1383K/AB/-X	SI. TRANSISTOR		
Q1923	2SA1020/Y/-T	SI. TRANSISTOR		
Q1924	2SC2412K/QR/-X	SI. TRANSISTOR		
Q1925	2SA949/Y/Z1-T	SI. TRANSISTOR		
Q1926	2SC2240/GL/-T	SI. TRANSISTOR		
Q1927-28	DTC124EKA-X	DIGI. TRANSISTOR		
Q1942	2SC2412K/QR/-X	SI. TRANSISTOR		
Q1943	2SC2240/GL/-T	SI. TRANSISTOR		
Q1944	DTC124EKA-X	DIGI. TRANSISTOR		
Q1951	2SA949/Y/Z1-T	SI. TRANSISTOR		
IC				
△	IC1001	AN7805F	I.C. (MONO-ANA)	
△	IC1101	AN7809F	I.C. (MONO-ANA)	
△	IC1201	TA1242N	I.C. (MONO-ANA)	
△	IC1421	LA7832	I.C. (MONO-ANA)	
△	IC1601	LA4485	I.C. (MONO-ANA)	
△	IC1701	MN1876478JE3	I.C. (MICRO-COMP)	
△	IC1702	AT24C02-32150U	I.C.	
△	IC1703	S-80840ALY-1	I.C. (MONO-ANA)	(SERVICE)
△	IC1771	AN77L05-T	I.C. (MONO-ANA)	
△	IC1901	STR-F6626/F7	I.C. (HYBRID)	
△	IC1941	SE135N	I.C. (HYBRID)	
OTHERS				
△	CF1131	QAX0339-001	CERAMIC FILTER	
△	CF1161	FSFH4.5MCB	CERAMIC FILTER	
△	CF1501	CSB503F30-T2	CER. RESONATOR	
△	CF1701	FCR12.0M2S	CER. RESONATOR	
△	CN11PW	QMPD270-200-K2	POWER CORD	
△	CP1902	ICP-N75-Y	I.C. PROTECT	
△	F1901	QMF0007-5R0J1	FUSE	
△	K1421	QQR0582-001Z	BEADS CORE	5.0A
△	K1703	QQR0582-001Z	BEADS CORE	
△	K1901-03	QQR0621-002Z	BEADS CORE	
△	K1905-06	QQR0621-002Z	BEADS CORE	
△	K1921-24	QQR0621-002Z	BEADS CORE	
△	LF1901	QQR1085-001	LINE FILTER	
△	LF1902	QQR0532-003	LINE FILTER	
△	PC1901	TP621(B)	I.C. (PH.COUPLER)	
△	PC1902	TP621(B)	I.C. (PH.COUPLER)	
△	RY1901	QSK0083-001	RELAY	
△	RY1921	QSK0083-001	RELAY	
△	S1421	QL4A13-C02	LEVER SWITCH	(V. CENTER SW)
△	SF1101	QAX0324-002	SAW FILTER	
△	TH1501	CEKP004-002	P.THERMISTOR	
△	TH1901	CEKP007-002	P.THERMISTOR	
△	TU1001	QAU0176-001	TUNER	
△	VA1901	ERZV10V621CS	VARISTOR	
X1301	QAX0310-001Z	CRYSTAL		

■CRT SOCKET PW BOARD ASS'Y(SGF-3001A-M2)

△	Symbol No.	Part No.	Part Name	Description
RESISTOR				
	R3351-53	NRSA02J-221X	MG R	220Ω 1/10W J
	R3354-56	NRSA02J-181X	MG R	180Ω 1/10W J
	R3357-59	NRSA02J-101X	MG R	100Ω 1/10W J
	R3360-62	QRZ0111-152	C R	1.5kΩ 1/2W K
	R3363-65	QRG029J-103	OM R	10kΩ 2W J
	R3366-68	NRSA02J-152X	MG R	1.5kΩ 1/10W J
	R3381	QRE121J-394Y	C R	390kΩ 1/2W J
CAPACITOR				
	C3354-55	NCS21HJ-331X	C CAP.	330pF 50V J
	C3356	NCS21HJ-391X	C CAP.	390pF 50V J
△	C3357	QETN1CM-107Z	E CAP.	100μF 16V M
△	C3382	QCZ0121-102	C CAP.	1000pF 3kV Z
COIL				
L3381	QLL29BJ-101Z	PEAKING COIL		100μH
TRANSISTOR				
Q3351-53	2SC4544-LB	SI. TRANSISTOR		
OTHERS				
△	SK3351	CE42446-001	C.R.T. SOCKET	
■FRONT CONTROL PW BOARD ASS'Y (SGF-4001A-M2)				
△	Symbol No.	Part No.	Part Name	Description
RESISTOR				
R4701	NRSA02J-103X	MG R	10kΩ 1/10W J	
R4702	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R4703	NRSA02J-153X	MG R	15kΩ 1/10W J	
R4704	NRSA02J-103X	MG R	10kΩ 1/10W J	
R4705	NRSA02J-472X	MG R	4.7kΩ 1/10W J	
R4706	NRSA02J-153X	MG R	15kΩ 1/10W J	
R4707	NRSA02J-222X	MG R	2.2kΩ 1/10W J	
R4708	NRSA02J-681X	MG R	680Ω 1/10W J	
R4709	NRSA02J-561X	MG R	560Ω 1/10W J	
CAPACITOR				
C4841	QETN1EM-476Z	E CAP.	47μF 25V M	
DIODE				
D4701	GL2PR6	L.E.D. (RED)		
TRANSISTOR				
Q4701-02	DTA124EKA-X	DIGI. TRANSISTOR		
IC				
IC4841	PIC-28143SY	IFR DETECT UNIT		
OTHERS				
	CM46978-A01-H	L.E.D. HOLDER		
S4702	QSW0707-001Z	TACT SWITCH	(MENU)	
S4703	QSW0707-001Z	TACT SWITCH	(CH-)	
S4704	QSW0707-001Z	TACT SWITCH	(CH+)	
S4705	QSW0707-001Z	TACT SWITCH	(VOL-)	
S4706	QSW0707-001Z	TACT SWITCH	(VOL+)	
S4707	QSW0707-001Z	TACT SWITCH	(POWER)	

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■ AV SELECTOR PW BOARD ASS'Y(SGF-8009A-M2)

△ Symbol No.	Part No.	Part Name	Description
RESISTOR			
R8202	NRSA02J-101X	MG R	100Ω 1/10W J
R8203	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R8204	NRSA02J-101X	MG R	100Ω 1/10W J
R8210	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R8211	NRSA02J-153X	MG R	15kΩ 1/10W J
R8212	NRSA02J-333X	MG R	33kΩ 1/10W J
R8213	NRSA02J-102X	MG R	1kΩ 1/10W J
R8214	NRSA02J-181X	MG R	180Ω 1/10W J
R8215	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R8216-17	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R8218	NRSA02J-102X	MG R	1kΩ 1/10W J
R8223	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R8229	NRSA02J-473X	MG R	47kΩ 1/10W J
R8230	NRSA02J-223X	MG R	22kΩ 1/10W J
R8231	NRSA02J-101X	MG R	100Ω 1/10W J
R8232	NRSA02J-102X	MG R	1kΩ 1/10W J
R8233	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R8234	NRSA02J-102X	MG R	1kΩ 1/10W J
R8235-36	NRSA02J-101X	MG R	100Ω 1/10W J
R8241	NRSA02J-821X	MG R	820Ω 1/10W J
R8251	NRSA02J-471X	MG R	470Ω 1/10W J
R8255	NRSA02J-681X	MG R	680Ω 1/10W J
R8256	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R8257	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R8258	NRSA02J-101X	MG R	100Ω 1/10W J
R8259	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R8271	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R8275	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R8276	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R8301	NRSA02J-471X	MG R	470Ω 1/10W J
R8303	NRSA02J-102X	MG R	1kΩ 1/10W J
R8304	NRSA02J-101X	MG R	100Ω 1/10W J
R8305	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R8306	NRSA02J-471X	MG R	470Ω 1/10W J
R8310-11	NRSA02J-153X	MG R	15kΩ 1/10W J
R8312	NRSA02J-221X	MG R	220Ω 1/10W J
R8371	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R8372	NRSA02J-471X	MG R	470Ω 1/10W J
R8375	NRSA02J-183X	MG R	18kΩ 1/10W J
R8376	NRSA02J-103X	MG R	10kΩ 1/10W J
R8377	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R8378	NRSA02J-0R0X	MG R	0.0Ω 1/10W J
R8601	NRSA02J-102X	MG R	1kΩ 1/10W J
R8602-03	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R8604	NRSA02J-683X	MG R	68kΩ 1/10W J
R8605	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R8606	NRSA02J-333X	MG R	33kΩ 1/10W J
R8607	NRVA02D-153X	MF R	15kΩ 1/10W D
R8609	NRVA02D-152X	MF R	1.5kΩ 1/10W D
R8611	NRSA02J-512X	MG R	5.1kΩ 1/10W J
R8613-16	NRSA02J-101X	MG R	100Ω 1/10W J
R8661	NRSA02J-123X	MG R	12kΩ 1/10W J
R8662	NRSA02J-473X	MG R	47kΩ 1/10W J
R8663-64	NRSA02J-123X	MG R	12kΩ 1/10W J
R8665	NRSA02J-473X	MG R	47kΩ 1/10W J
R8666	NRSA02J-123X	MG R	12kΩ 1/10W J
R8667-68	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R8671	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R8672	NRSA02J-223X	MG R	22kΩ 1/10W J
R8683-86	NRSA02J-223X	MG R	22kΩ 1/10W J
R8691-94	NRSA02J-221X	MG R	220Ω 1/10W J
R8695-96	NRSA02J-823X	MG R	82kΩ 1/10W J
R8801	NRSA02J-820X	MG R	82Ω 1/10W J
R8802	NRSA02J-750X	MG R	75Ω 1/10W J
R8803	NRSA02J-820X	MG R	82Ω 1/10W J
R8804	NRSA02J-823X	MG R	82kΩ 1/10W J
R8805	NRSA02J-823X	MG R	82kΩ 1/10W J
R8808	NRSA02J-820X	MG R	82Ω 1/10W J
R8809-10	NRSA02J-823X	MG R	82kΩ 1/10W J
R8811-14	NRSA02J-102X	MG R	1kΩ 1/10W J
R8815	NRSA02J-153X	MG R	15kΩ 1/10W J
R8816	NRSA02J-103X	MG R	10kΩ 1/10W J

△ Symbol No.	Part No.	Part Name	Description
RESISTOR			
R8817	NRSA02J-153X	MG R	15kΩ 1/10W J
R8818	NRSA02J-102X	MG R	1kΩ 1/10W J
R8830	NRSA02J-103X	MG R	10kΩ 1/10W J
R8831	NRSA02J-821X	MG R	820Ω 1/10W J
R8832-33	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R8835	NRSA02J-273X	MG R	27kΩ 1/10W J
R8836	NRSA02J-223X	MG R	22kΩ 1/10W J
R8837	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R8851	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R8852	NRSA02J-223X	MG R	22kΩ 1/10W J
CAPACITOR			
C8201	QETN1CM-107Z	E CAP.	100μF 16V M
C8203	QETN1EM-476Z	E CAP.	47μF 25V M
C8204	NCB21HK-103X	C CAP.	0.01μF 50V K
C8208	NCB21HK-103X	C CAP.	0.01μF 50V K
C8209	QETN1EM-476Z	E CAP.	47μF 25V M
C8211	QENC1EM-106Z	BP E CAP.	10μF 25V M
C8212	NDC21HJ-101X	C CAP.	100pF 50V J
C8213	NDC21HJ-470X	C CAP.	47pF 50V J
C8214	NDC21HJ-181X	C CAP.	180pF 50V J
C8215	QETN1HM-474Z	E CAP.	0.47μF 50V M
C8223	NCB21HK-103X	C CAP.	0.01μF 50V K
C8226	NCB21HK-103X	C CAP.	0.01μF 50V K
C8231-32	QETN1EM-476Z	E CAP.	47μF 25V M
C8241-45	NCB21HK-103X	C CAP.	0.01μF 50V K
C8246	NDC21HJ-181X	C CAP.	180pF 50V J
C8247-49	NCB21HK-103X	C CAP.	0.01μF 50V K
C8251	QETN1EM-476Z	E CAP.	47μF 25V M
C8252	NCB21HK-103X	C CAP.	0.01μF 50V K
C8255	NCB21HJ-390X	C CAP.	39pF 50V J
C8304	NDC21HJ-150X	C CAP.	15pF 50V J
C8306	NCB21HJ-680X	C CAP.	68pF 50V J
C8307	NCB21HJ-271X	C CAP.	270pF 50V J
C8371	NCB21HK-103X	C CAP.	0.01μF 50V K
C8375	NCB21HK-103X	C CAP.	0.01μF 50V K
C8601	QETN1CM-107Z	E CAP.	100μF 16V M
C8602	NCB21HK-103X	C CAP.	0.01μF 50V K
C8603	QETN1EM-476Z	E CAP.	47μF 25V M
C8604	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
C8605	QENC1HM-475Z	BP E CAP.	4.7μF 50V M
C8606	QENC1HM-105Z	BP E CAP.	1μF 50V M
C8607	QETN1HM-225Z	E CAP.	2.2μF 50V M
C8608	NCB21HK-473X	C CAP.	0.047μF 50V K
C8609	QETN1HM-474Z	E CAP.	0.47μF 50V M
C8610-11	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
C8612	QETN1HM-105Z	E CAP.	1μF 50V M
C8613	QBTC1CK-335Z	TAN.CAP.	3.3μF 16V K
C8614	QBTC1CK-106Z	TAN.CAP.	10μF 16V K
C8615-16	QETN1HM-105Z	E CAP.	1μF 50V M
C8617	QETN1HM-475Z	E CAP.	4.7μF 50V M
C8618	QETN1HM-105Z	E CAP.	1μF 50V M
C8619	NCB21HK-273X	C CAP.	0.027μF 50V K
C8620	QETN1HM-225Z	E CAP.	2.2μF 50V M
C8621	NCB21HK-222X	C CAP.	2200pF 50V K
C8622	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
C8623	QETN1HM-225Z	E CAP.	2.2μF 50V M
C8624	NCB21HK-222X	C CAP.	2200pF 50V K
C8625	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
C8628	QETN1HM-105Z	E CAP.	1μF 50V M
C8661-62	QENC1HM-105Z	BP E CAP.	1μF 50V M
C8664	QETN1EM-476Z	E CAP.	47μF 25V M
C8691	QETN1HM-474Z	E CAP.	0.47μF 50V M
C8692	QETN1HM-474Z	E CAP.	0.47μF 50V M
C8811-14	QETN1HM-105Z	E CAP.	1μF 50V M
C8821-22	QETN1HM-106Z	E CAP.	10μF 50V M
C8825-27	QETN1HM-106Z	E CAP.	10μF 50V M
C8831	QETN1EM-476Z	E CAP.	47μF 25V M
C8832	NCB21HK-103X	C CAP.	0.01μF 50V K
C8833	QETN1HM-106Z	E CAP.	10μF 50V M
C8835-36	QETN1EM-476Z	E CAP.	47μF 25V M

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△	Symbol No.	Part No.	Part Name	Description
COIL				
	L8201	QQL29BJ-6R8Z	PEAKING COIL	6.8μH
	L8202	QQL29BJ-150Z	PEAKING COIL	15μH
	L8203-04	QQL29BJ-4R7Z	PEAKING COIL	4.7μH
	L8211	QQL29BJ-4R7Z	PEAKING COIL	4.7μH
	L8251	QQL29BJ-6R8Z	PEAKING COIL	6.8μH
	L8301-02	QQL29BJ-150Z	PEAKING COIL	15μH
	L8801	QQL29BJ-6R8Z	PEAKING COIL	6.8μH
DIODE				
	D8693-94	MTZJ9.1C-T2	ZENER DIODE	
	D8703	MTZJ5.68-T2	ZENER DIODE	
	D8811-22	MTZJ9.1C-T2	ZENER DIODE	
TRANSISTOR				
	Q8201	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8211-12	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8218	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8219	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q8252	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q8253	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8271	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8301-02	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8304-05	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8371	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8671-72	DTC124EKA-X	DIGI.TRANSISTOR	
	Q8683-86	DTC323TK-X	DIGI.TRANSISTOR	
	Q8804-05	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q8851-52	DTC124EKA-X	DIGI.TRANSISTOR	
IC				
	IC8201	TC90A45P	I.C.	
	IC8202	AN78L05-T	I.C.(MONO-ANA)	
	IC8601	UPC1851BCU	I.C.	
	IC8661	BA15218N	I.C.(MONO-ANA)	
	IC8671	TC4066BP/N/	I.C.(DIGI-MOS)	
	IC8801	BA7644AN	I.C.(MONO-ANA)	
	IC8803	TC4066BP/N/	I.C.(DIGI-MOS)	
OTHERS				
	CN8001	QGB1505K1-35	PLUG	
	J8801	QNZ0454-001	PIN JACK	
	J8801	QNZ0454-001	PIN JACK	
	J8802	QNN0350-001	PIN JACK	
	J8803	QNN0348-001	PIN JACK	
	J8804	QNS0001-001	JACK	

**■FRONT JACK PW BOARD ASS'Y
(SGF-8305A-M2)**

△	Symbol No.	Part No.	Part Name	Description
OTHERS				
	J8001	QNN0079-001	PIN JACK	

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PRINTED WIRING BOARD PARTS LIST

■ MAIN PW BOARD ASS'Y (SGF-1002A-M2)

Symbol No.	Part No.	Part Name	Description
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VARIABLE RESISTOR

R1579	QVP0067-203Z	V R(SIDEPIN CORRECT)	20kΩ
R1581	QVP0067-502Z	V R(H.WIDTH)	5kΩ

RESISTOR

R1003-04	NRSA02J-101X	MG R	100Ω 1/10W J
R1005	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1006	NRSA02J-223X	MG R	22kΩ 1/10W J
R1101	NRSA02J-820X	MG R	82Ω 1/10W J
R1102	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1103	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1104	QRE121J-331Y	C R	33Ω 1/2W J
R1105	NRSA02J-100X	MG R	10Ω 1/10W J
R1106	NRSA02J-390X	MG R	39Ω 1/10W J
R1108	NRSA02J-183X	MG R	18kΩ 1/10W J
R1110	QRL029J-330	OM R	33Ω 2W J
R1131	NRSA02J-181X	MG R	180Ω 1/10W J
R1132-33	NRSA02J-101X	MG R	100Ω 1/10W J
R1134	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R1135	NRSA02J-561X	MG R	56Ω 1/10W J
R1136	NRSA02J-122X	MG R	1.2kΩ 1/10W J
R1137	NRSA02J-471X	MG R	470Ω 1/10W J
R1139	NRSA02J-681X	MG R	68Ω 1/10W J
R1161-62	NRSA02J-102X	MG R	1kΩ 1/10W J
R1163	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1164	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1201	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1208	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1209	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1210	NRSA02J-821X	MG R	820Ω 1/10W J
R1211	NRSA02J-683X	MG R	68kΩ 1/10W J
R1212	NRSA02J-224X	MG R	220kΩ 1/10W J
R1215	NRSA02J-471X	MG R	470Ω 1/10W J
R1216	NRSA02J-681X	MG R	68Ω 1/10W J
R1217	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1225	NRSA02J-681X	MG R	68Ω 1/10W J
R1231	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1232	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1233	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1236	NRSA02J-471X	MG R	470Ω 1/10W J
R1237	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1238	NRSA02J-471X	MG R	470Ω 1/10W J
R1239	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1301	NRSA02J-393X	MG R	39Ω 1/10W J
R1302	NRSA02J-183X	MG R	18kΩ 1/10W J
R1311-12	NRSA02J-473X	MG R	47kΩ 1/10W J
R1313	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1314	NRSA02J-680X	MG R	68Ω 1/10W J
R1421	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1422	QRE121J-391Y	C R	390Ω 1/2W J
R1423	QRL029J-1R2	MF R	1.2Ω 2W J
R1424	QRE121J-102Y	C R	1kΩ 1/2W J
R1425	NRSA02J-683X	MG R	68Ω 1/10W J
R1427	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1428	NRSA02J-333X	MG R	33Ω 1/10W J
R1429	NRSA02J-223X	MG R	22kΩ 1/10W J
R1430	NRSA02J-102X	MG R	1kΩ 1/10W J
R1501	NRSA02J-361X	MG R	36Ω 1/10W J
R1502	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1504	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1505	NRSA02J-822X	MG R	8.2kΩ 1/10W J
R1506	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1507	NRSA02J-563X	MG R	56kΩ 1/10W J
R1511	NRSA02J-391X	MG R	39Ω 1/10W J
R1521	NRSA02J-391X	MG R	39Ω 1/10W J
R1522	NRSA02J-271X	MG R	270Ω 1/10W J
R1523	QRE121J-103Y	C R	10kΩ 1/2W J

Symbol No.	Part No.	Part Name	Description
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RESISTOR

R1524	QRG029J-182	OM R	1.8kΩ 2W J
R1525	QRG029J-152	OM R	1.5kΩ 2W J
R1531	QRE121J-220Y	C R	22Ω 1/2W J
R1532	QRE121J-681Y	C R	680Ω 1/2W J
R1533	QRL039J-103	OM R	10kΩ 3W J
▲ R1541	QRK129J-150	C R	15Ω 1/2W J
R1542	QRX016J-1R2	MF R	1.2Ω 1W J
▲ R1544	QRZ9017-4R7	F R	4.7Ω 1/4W J
R1545	QRE121J-332Y	C R	3.3kΩ 1/2W J
R1547	QRE121J-154Y	C R	150kΩ 1/2W J
R1548	QRE121J-184Y	C R	180kΩ 1/2W J
▲ R1556	NRVA02D-752X	MF R	7.5kΩ 1/10W D
▲ R1557	NRVA02D-242X	MF R	2.4kΩ 1/10W D
R1558	NRSA02J-333X	MG R	33Ω 1/10W J
R1559	NRSA02J-123X	MG R	12kΩ 1/10W J
R1560	NRSA02J-273X	MG R	27kΩ 1/10W J
R1561	NRSA02J-103X	MG R	10kΩ 1/10W J
R1572	NRSA02J-683X	MG R	68kΩ 1/10W J
R1573	NRSA02J-153X	MG R	15kΩ 1/10W J
R1574	NRSA02J-184X	MG R	180kΩ 1/10W J
R1575	NRSA02J-274X	MG R	270kΩ 1/10W J
R1576	NRSA02J-123X	MG R	12kΩ 1/10W J
R1577	NRSA02J-102X	MG R	1kΩ 1/10W J
R1578	NRSA02J-473X	MG R	47kΩ 1/10W J
R1580	NRSA02J-103X	MG R	10kΩ 1/10W J
R1582	NRSA02J-104X	MG R	100kΩ 1/10W J
R1583	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1584	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R1585	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1586	QRE121J-472Y	C R	4.7kΩ 1/2W J
R1587	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1588	QRL039J-100	OM R	10Ω 3W J
R1592	QRE121J-270Y	C R	27Ω 1/2W J
R1601	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1602	NRSA02J-221X	MG R	22Ω 1/10W J
R1603	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1604	NRSA02J-221X	MG R	22Ω 1/10W J
R1605	QRL039J-2R7	MF R	2.7Ω 3W J
R1606-07	NRSA02J-223X	MG R	22kΩ 1/10W J
R1611	NRSA02J-333X	MG R	33kΩ 1/10W J
R1612	NRSA02J-223X	MG R	22kΩ 1/10W J
R1613-14	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1615-16	NRSA02J-271X	MG R	27Ω 1/10W J
R1617	NRSA02J-473X	MG R	47kΩ 1/10W J
R1701	NRSA02J-102X	MG R	1kΩ 1/10W J
R1704	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1705	NRSA02J-103X	MG R	10kΩ 1/10W J
R1706	NRSA02J-102X	MG R	1kΩ 1/10W J
R1710	NRSA02J-331X	MG R	330Ω 1/10W J
R1711	NRSA02J-223X	MG R	22kΩ 1/10W J
R1713	NRSA02J-103X	MG R	10kΩ 1/10W J
R1714	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1715	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R1716	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1717	NRSA02J-471X	MG R	470Ω 1/10W J
R1718	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1719	NRSA02J-471X	MG R	470Ω 1/10W J
R1720	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1721	NRSA02J-471X	MG R	470Ω 1/10W J
R1724	NRSA02J-102X	MG R	1kΩ 1/10W J
R1725	NRSA02J-104X	MG R	100kΩ 1/10W J
R1728-29	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1730-31	NRSA02J-101X	MG R	100Ω 1/10W J
R1732	NRSA02J-224X	MG R	220kΩ 1/10W J
R1733-34	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R1735	NRSA02J-103X	MG R	10kΩ 1/10W J
R1736	NRSA02J-102X	MG R	1kΩ 1/10W J

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△	Symbol No.	Part No.	Part Name	Description	△	Symbol No.	Part No.	Part Name	Description
RESISTOR									
	R1739	NRSA02J-473X	MG R	47kΩ 1/10W J		C1106	NDC21HJ-680X	C CAP.	68pF 50V J
	R1741	NRSA02J-223X	MG R	22kΩ 1/10W J		C1107	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1742	NRSA02J-822X	MG R	8.2kΩ 1/10W J		C1108	QETN1CM-107Z	E CAP.	100μF 16V M
	R1743	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1110	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1744	NRSA02J-103X	MG R	10kΩ 1/10W J		C1111	NCB21HK-222X	C CAP.	2200pF 50V K
	R1745	NRSA02J-473X	MG R	47kΩ 1/10W J		C1113	NDC21HJ-5R0X	C CAP.	5.0pF 50V J
	R1746	NRSA02J-103X	MG R	10kΩ 1/10W J		C1131	QFV71HJ-154Z	MF CAP.	0.15μF 50V J
	R1747	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1132	QFN31HJ-152Z	M CAP.	1500pF 50V J
	R1756-57	NRSA02J-682X	MG R	6.8kΩ 1/10W J		C1133	QETN1HM-474Z	E CAP.	0.47μF 50V M
	R1759	NRSA02J-102X	MG R	1kΩ 1/10W J		C1134	NCB21HK-223X	C CAP.	0.022μF 50V K
	R1772	NRSA02J-102X	MG R	1kΩ 1/10W J		C1135	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1773	NRSA02J-121X	MG R	120Ω 1/10W J		C1137	QETN1EM-476Z	E CAP.	47μF 25V M
	R1791-95	NRSA02J-561X	MG R	560Ω 1/10W J		C1161	QETN1CM-227Z	E CAP.	220μF 16V M
	R1801-03	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1162	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1804-06	NRSA02J-101X	MG R	100Ω 1/10W J		C1163	NDC21HJ-220X	C CAP.	22pF 50V J
△	R1901	QRF074K-R47	UNF R	0.47Ω 7W K		C1164-65	NDC21HJ-470X	C CAP.	47pF 50V J
	R1902	QRE121J-822Y	C R	8.2kΩ 1/2W J		C1166	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1903	NRSA02J-681X	MG R	680Ω 1/10W J		C1168-70	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1904-05	QRT029J-R22	MF R	0.22Ω 2W J		C1171	NCB21HK-222X	C CAP.	2200pF 50V K
	R1906	QRE121J-822Y	C R	8.2kΩ 1/2W J		C1205	NCB21HK-104X	CHIP CAP.	0.1μF 50V M
	R1907-08	QLR039J-393	OM R	39kΩ 3W J		C1206	QETN1HM-105Z	E CAP.	1μF 50V M
	R1909	QRE121J-332Y	C R	3.3kΩ 1/2W J		C1207	QETN1HM-106Z	E CAP.	10μF 50V M
	R1912-13	QRE121J-333Y	C R	33kΩ 1/2W J		C1225	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1914	QRE121J-2R2Y	C R	2.2Ω 1/2W J		C1226	NDC21HJ-681X	C CAP.	680pF 50V J
	R1915	NRSA02J-392X	MG R	3.9kΩ 1/10W J		C1228	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1916	NRSA02J-392X	MG R	3.9kΩ 1/10W J		C1231	QETN1EM-476Z	E CAP.	47μF 25V M
	R1917	NRSA02J-103X	MG R	10kΩ 1/10W J		C1232	QETN1HM-106Z	E CAP.	10μF 50V M
	R1918	NRSA02J-102X	MG R	1kΩ 1/10W J		C1233	QETN1EM-476Z	E CAP.	47μF 25V M
	R1920	NRSA02J-103X	MG R	10kΩ 1/10W J		C1234-35	QETN1HM-105Z	E CAP.	1μF 50V M
	R1924	QRG01GJ-221	OM R	220Ω 1W J		C1301	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1925	NRSA02J-103X	MG R	10kΩ 1/10W J		C1302	NDC21HJ-100X	C CAP.	10pF 50V J
	R1926	QRT029J-R82	MF R	0.82Ω 2W J		C1303	NCB21HK-223X	C CAP.	0.022μF 50V K
	R1928	NRSA02J-682X	MG R	6.8kΩ 1/10W J		C1304	QETN1HM-474Z	E CAP.	0.47μF 50V M
	R1931	NRSA02J-123X	MG R	12kΩ 1/10W J		C1305	QETN1CM-107Z	E CAP.	100μF 16V M
	R1933	NRSA02J-123X	MG R	12kΩ 1/10W J		C1308	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1934	NRSA02J-104X	MG R	100kΩ 1/10W J		C1401	QETN1HM-225Z	E CAP.	2.2μF 50V M
	R1936	QRE121J-222Y	C R	2.2kΩ 1/2W J		C1402	QBHC1CK-225Z	TAN CAP.	2.2μF 16V K
	R1940	NRSA02J-104X	MG R	100kΩ 1/10W J		C1403	NCB21HK-102X	C CAP.	1000pF 50V K
	R1941	NRSA02J-102X	MG R	1kΩ 1/10W J		C1421	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1942	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1424	QETN1VM-107Z	E CAP.	100μF 35V M
	R1943	NRSA02J-OR0X	MG R	0.0Ω 1/10W J		C1425	QETN1VM-477Z	E CAP.	470μF 35V M
	R1944	NRSA02J-393X	MG R	39kΩ 1/10W J		C1426	QFLC2AK-563Z	M CAP.	0.056μF 100V K
△	R1945-46	NRSA02J-102X	MG R	1kΩ 1/10W J		C1427	QETM1EM-228	E CAP.	2200pF 25V M
	R1947	NRSA02J-472X	MG R	4.7kΩ 1/10W J		C1428	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
	R1948	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1429	QFV71HJ-224Z	MF CAP.	0.22μF 50V J
	R1949	NRSA02J-104X	MG R	100kΩ 1/10W J		C1501	QETN1CM-227Z	E CAP.	220μF 16V M
	R1951	QRT029J-1R2	MF R	1.2Ω 2W J		C1502	QETN1HM-106Z	E CAP.	10μF 50V M
	R1952	QRT029J-1R0	MF R	1.0Ω 2W J		C1503	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1954	QRE121J-272Y	C R	2.7kΩ 1/2W J		C1505	QETN1HM-106Z	E CAP.	10μF 50V M
	R1955	QRE121J-473Y	C R	47kΩ 1/2W J		C1511	QETN1EM-476Z	E CAP.	47μF 25V M
	R1956	NRSA02J-223X	MG R	22kΩ 1/10W J		C1521	QCB32HK-151Z	C CAP.	150pF 500V K
	R1961	QRJ146J-3R3X	C R	3.3Ω 1/4W J		C1522	QCB32HK-331Z	C CAP.	330pF 500V K
	R1962	QLR029J-472	OM R	4.7kΩ 2W J		C1523	QEHR2CM-105Z	E CAP.	1μF 16V M
	R1963	NRSA02J-103X	MG R	10kΩ 1/10W J		△ C1531	QFZ0196-402	MPP CAP.	4000pF 1.5KVH ±3%
	R1966	NRSA02J-223X	MG R	22kΩ 1/10W J		△ C1532	QFZ0198-133	MPP CAP.	0.13F1.5KVH ±3%
	R1967	QRE121J-683Y	C R	68kΩ 1/2W J		△ C1533	QFP32GJ-223	PP CAP.	0.022μF 400V J
△	R1998	QRZ9041-275	C R	2.7M 1/2W K		C1534	QEHR2EM-225Z	E CAP.	2.2μF 250V M
△	R1999	QRE121J-121Y	C R	120Ω 1/2W J		△ C1535	QFZ0197-754	MPP CAP.	0.75μF 250V J
CAPACITOR									
	C1001	QETN1HM-475Z	E CAP.	4.7μF 50V M		C1536	QCB32HK-561Z	C CAP.	560pF 500V K
	C1004	QETN1CM-227Z	E CAP.	2200pF 16V M		C1538	QEZ0420-107	E CAP.	100μF 160V M
	C1005	QETN1EM-476Z	E CAP.	47μF 25V M		C1541	QETN2EM-226Z	E CAP.	22μF 250V M
	C1006	NCB21HK-103X	C CAP.	0.01μF 50V K		C1542	QETN1VM-108	E CAP.	1000μF 35V M
	C1007	QETN1HM-106Z	E CAP.	10μF 50V M		C1544	QETN1VM-107Z	E CAP.	100μF 35V M
	C1011	NCB21HK-103X	C CAP.	0.01μF 50V K		C1545	QFN32AJ-472Z	M CAP.	4700pF 100V J
	C1101	QFV71HJ-104Z	MF CAP.	0.1μF 50V J		C1546	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
	C1102	NCB21HK-103X	C CAP.	0.01μF 50V K		C1547	QCB32HK-561Z	C CAP.	560pF 500V K
	C1103	QETN1CM-107Z	E CAP.	100μF 16V M		C1548	QCB32HK-102Z	C CAP.	1000pF 500V K
	C1104-05	NCB21HK-103X	C CAP.	0.01μF 50V K		C1551	QETN1HM-106Z	E CAP.	10μF 50V M

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△	Symbol No.	Part No.	Part Name	Description		
CAPACITOR						
C1577	QETN1VM-476Z	E CAP.	47μF	35V	M	
C1578-79	QEM61HK-475Z	E CAP.	4.7μF	50V	K	
C1580	NDC21HJ-330X	C CAP.	33pF	50V	J	
C1602	QENC1HM-474Z	BP E CAP.	0.47μF	50V	M	
C1604	QENC1HM-474Z	BP E CAP.	0.47μF	50V	M	
C1605	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1606	QETN1EM-108Z	E CAP.	1000μF	25V	M	
C1607	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
C1608-09	QETN1CM-477Z	E CAP.	470μF	16V	M	
C1613	QETN1EM-476Z	E CAP.	47μF	25V	M	
C1614	QETN1HM-106Z	E CAP.	10μF	50V	M	
C1615	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
C1701	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1703	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1704	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1705	NDC21HJ-181X	C CAP.	180pF	50V	J	
C1706	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
C1708	QETN1HM-105Z	E CAP.	1μF	50V	M	
C1709	NDC21HJ-221X	C CAP.	220pF	50V	J	
C1710-11	NDC21HJ-390X	C CAP.	39pF	50V	J	
C1712	NDC21HJ-270X	C CAP.	27pF	50V	J	
C1714	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1715	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1716	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1717-18	NDC21HJ-330X	C CAP.	33pF	50V	J	
C1719	NDC21HJ-471X	C CAP.	470pF	50V	J	
C1720-21	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1724	NDC21HJ-471X	C CAP.	470pF	50V	J	
C1736	NCB21HK-102X	C CAP.	1000μF	50V	K	
C1741	QFN31HJ-102Z	M CAP.	1000pF	50V	J	
C1743	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1744	NDC21HJ-221X	C CAP.	220pF	50V	J	
C1771	QETN1EM-476Z	E CAP.	47μF	25V	M	
C1772	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1773	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1774	QETN1CM-227Z	E CAP.	220μF	16V	M	
C1784	QETN1HM-336Z	E CAP.	33μF	50V	M	
C1801-03	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
△ C1901	QFZ9040-104	MF CAP.	0.1μFAC275V	M		
△ C1902	QFZ9040-473	MF CAP.	0.047μFAC275V	M		
△ C1903	QFZ9040-104	MF CAP.	0.1μFAC275V	M		
△ C1904	QZC9052-102	C CAP.	1000pFAC125V	M		
△ C1906	QZC9078-102	C CAP.	1000pFAC250V	M		
△ C1907	QZC9078-102	C CAP.	1000pFAC250V	M		
△ C1908	QZC9078-102	C CAP.	1000pFAC250V	M		
△ C1910	QEZO429-477	E CAP.	470μF	200V	M	
C1911	QETN1EM-108Z	E CAP.	1000μF	25V	M	
C1912	QFN31HJ-102Z	M CAP.	1000pF	50V	J	
C1913	QCZ0131-102	C CAP.	1000pF	2kV	K	
C1914	QCZ0325-391	C CAP.	390pF	2kV	K	
C1915	QFP32GJ-223	PP CAP.	0.022μF	400V	J	
C1916	QCZ0131-332	C CAP.	3300pF	2kV	K	
C1918	NCB21HK-102X	C CAP.	1000pF	50V	K	
C1919	NCB21HK-222X	C CAP.	2200pF	50V	K	
C1920	QFLC1HJ-823Z	M CAP.	0.082μF	50V	J	
C1921-23	QCZ0132-152Z	C CAP.	1500pF	500V	K	
C1924	QEZO420-107	E CAP.	100μF	160V	M	
C1925	QCZ0132-152Z	C CAP.	1500pF	500V	K	
C1926	QEHQ1VM-108	E CAP.	1000μF	35V	M	
C1927	QEHR1CM-227Z	E CAP.	220μF	16V	M	
C1928	QETN1EM-108Z	E CAP.	1000μF	25V	M	
C1931	QETN1EM-476Z	E CAP.	47μF	25V	M	
C1932	QEHR1VM-476Z	E CAP.	47μF	35V	M	
C1934	NCB21HK-102X	C CAP.	1000pF	50V	K	
C1935	QETN1HM-107Z	E CAP.	100μF	50V	M	
C1937	QETN2CM-106Z	E CAP.	10μF	160V	M	
C1938	NDC21HJ-102X	C CAP.	1000pF	50V	J	
C1951	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1952	QETN1HM-476Z	E CAP.	47μF	50V	M	
C1954	QEHR1HM-226Z	E CAP.	22μF	50V	M	
△ C1990	QCZ9074-103	C CAP.	0.01μFAC250V	M		
△ C1991	QCZ9074-103	C CAP.	0.01μFAC250V	M		

△	Symbol No.	Part No.	Part Name	Description		
TRANSFORMER						
T1131	QQR0907-001	IFT				
T1161	CEL7003-109J3	S.I.F. TRANSF.				
T1521	CE42034-002	H.DRIVE TRANSF.				
△ T1522	QH0062-001	H.V. TRANSF.				
△ T1901	QQS0063-001	SWITCH. TRANSF.				
COIL						
L1102	QLLZ014-R22	PEAKING COIL				0.22μH
L1104	QLL29BJ-680Z	PEAKING COIL				68μH
L1131	QLL29BJ-220Z	PEAKING COIL				22μH
L1161	QLL29BJ-680Z	PEAKING COIL				68μH
L1162	QLL29BJ-220Z	PEAKING COIL				22μH
L1201	QLL244J-270Z	PEAKING COIL				27μH
△ L1531	QQR1027-003	LIN. COIL				
L1532	QLLZ027-821	CHOKE COIL				
△ L1591	QLLZ026-430	HEATER CHOKE				43μH
L1701	QLL29BJ-4R7Z	PEAKING COIL				4.7μH
L1702	QLL244J-100Z	PEAKING COIL				10μH
L1771	QLL29BJ-4R7Z	PEAKING COIL				4.7μH
L1921-22	QLL42AK-820Z	CHOKE COIL				
DIODE						
D1001	MTZJ33A-T2	ZENER DIODE				
D1231-34	1SS133-T2	SI.DIODE				
D1421	1N4003-T2	SI.DIODE				
D1422	MTZJ75-T2	ZENER DIODE				
△ D1511	MTZJ3..3A-T2	ZENER DIODE				
△ D1531	RH3G-F1	SI.DIODE				
△ D1532	RU3AM-LFC4	SI.DIODE				
△ D1533	RGP10J-5025-T3	SI.DIODE				
D1541	RH15-T3	SI.DIODE				
D1542	RGP10J-5025-T3	SI.DIODE				
D1544	1SS131-T2	SI.DIODE				
D1546	1SR124-400A-T2	SI.DIODE				
D1549	MTZJ9.1B-T2	ZENER DIODE				
△ D1551	MA4068N/Z1/-T2	ZENER DIODE				
D1560-61	1SS133-T2	SI.DIODE				
D1601-02	1SS133-T2	SI.DIODE				
D1609	1SS133-T2	SI.DIODE				
D1702-04	1SS133-T2	SI.DIODE				
D1741-42	1SS133-T2	SI.DIODE				
D1771-72	1SS133-T2	SI.DIODE				
D1801	MTZJ5..1B-T2	ZENER DIODE				
D1804	1SS133-T2	SI.DIODE				
△ D1901	D35BA60-S1	BRIDGE DIODE				
△ D1902	RGP10J-5025-T3	SI.DIODE				
D1903-04	1SS133-T2	SI.DIODE				
D1905	EG1A-T3	SI.DIODE				
D1909	MTZJ15A-T2	ZENER DIODE				
D1910	RGP10J-5025-T3	SI.DIODE				
D1911	1SS133-T2	SI.DIODE				
D1912	MTZJ15A-T2	ZENER DIODE				
D1913-14	RGP10J-5025-T3	SI.DIODE				
D1916	RGP10J-5025-T3	SI.DIODE				
D1918	MTZJ15A-T2	ZENER DIODE				
D1921	RU30A-F1	SI.DIODE				
D1922	RU3YX-LFC4	SI.DIODE				
D1923	ECP10DL-6006-F1	SI.DIODE				
D1925	RGP10J-5025-T3	SI.DIODE				
D1926-28	1SS133-T2	SI.DIODE				
D1931	1SS133-T2	SI.DIODE				
D1933	1SS133-T2	SI.DIODE				
D1942	MTZJ6..8C-T2	ZENER DIODE				
D1951	MTZJ7..55-T2	ZENER DIODE				
D1951	MTZJ7..5A-T2	ZENER DIODE				
Q1001	DTC124EKA-X	DIGI. TRANSISTOR				
Q1101	2SC5083/L-P/-T	SI.TRANSISTOR				
Q1131-32	2SC2412K/QR-X	SI.TRANSISTOR				
Q1161	2SC2412K/QR-X	SI.TRANSISTOR				
Q1203	2SC2412K/QR-X	SI.TRANSISTOR				
Q1204-05	2SA1037AK/QR-X	SI.TRANSISTOR				
TRANSISTOR						

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△	Symbol No.	Part No.	Part Name	Description
TRANSISTOR				
	Q1231-32	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1301	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1521	2SC4212/Z1/	SI.TRANSISTOR	
△	Q1531	2SD2539-LB	SI.TRANSISTOR	H.OUT
	Q1541	2SA1037AK/QR/-X	SI.TRANSISTOR	
△	Q1542	2SC2785/JH-T	SI.TRANSISTOR	
	Q1551	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1552	2SA1037AK/QR/-X	SI.TRANSISTOR	
△	Q1553	2SD1408/Y0/-LB	SI.TRANSISTOR	
	Q1601	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1602	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1603	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1604	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1701	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1741	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1742	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1743	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1911	2SA1037AK/QR/-X	SI.TRANSISTOR	
	Q1912	2SD2088-T	SI.TRANSISTOR	
	Q1921	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1922	2SD1383K/AB/-X	SI.TRANSISTOR	
	Q1923	2SA1020/Y/-T	SI.TRANSISTOR	
	Q1924	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1925	2SA949/Y/Z1-T	SI.TRANSISTOR	
	Q1926	2SC2240/GL/-T	SI.TRANSISTOR	
	Q1927-28	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1942	2SC2412K/QR/-X	SI.TRANSISTOR	
	Q1943	2SC2240/GL/-T	SI.TRANSISTOR	
	Q1944	DTC124EKA-X	DIGI.TRANSISTOR	
	Q1951	2SA949/Y/Z1-T	SI.TRANSISTOR	
I C				
	IC1001	AN7805F	I.C. (MONO-ANA)	
	IC1101	AN7809F	I.C. (MONO-ANA)	
	IC1201	TA1242N	I.C. (MONO-ANA)	
△	IC1421	LA7832	I.C. (MONO-ANA)	
	IC1601	LA4485	I.C. (MONO-ANA)	
	IC1701	MN1876478J53	I.C. (MICRO-COMP)	
	IC1702	AT24C02-32150U	I.C. (SERVICE)	
	IC1703	S-80840ALY-T	I.C. (MONO-ANA)	
	IC1771	AN77L05-T	I.C. (MONO-ANA)	
△	IC1901	STR-F6626/F7	I.C. (HYBRID)	
△	IC1941	SE135N	I.C. (HYBRID)	
OTHERS				
	CF1131	QAX0339-001	CERAMIC FILTER	
	CF1161	SFSH4.5MCB	CERAMIC FILTER	
	CF1501	CSB503F30-T2	CER. RESONATOR	
	CF1701	FCR12.0M2S	CER. RESONATOR	
△	CN11PW	QMPD270-200-K2	POWER CORD	
△	CP1902	ICP-N75-Y	I.C. PROTECT	
△	F1901	QMF0007-5R0J1	FUSE	5.0A
	K1421	QQR0582-001Z	BEADS CORE	
	K1703	QQR0582-001Z	BEADS CORE	
	K1901-03	QQR0621-002Z	BEADS CORE	
	K1905-06	QQR0621-002Z	BEADS CORE	
	K1921-24	QQR0621-002Z	BEADS CORE	
△	LF1901	QR1085-001	LINE FILTER	
△	LF1902	QQR0532-003	LINE FILTER	
△	PC1901	TLP621(B)	I.C. (PH.COUPLER)	
△	PC1902	TLP621(B)	I.C. (PH.COUPLER)	
△	RY1901	QSK0083-001	RELAY	
△	RY1921	QSK0083-001	RELAY	
	S1421	QL4A13-C02	LEVER SWITCH	(V.CENTER SW)
	SF1101	QAX0324-002	SAW FILTER	
△	TH1501	CEKP004-002	P.THERMISTOR	
△	TH1901	CEKP007-002	P.THERMISTOR	
△	TU1001	QAU0176-001	TUNER	
△	VA1901	ERZV10V621CS	VARISTOR	
	X1301	QAX0310-001Z	CRYSTAL	

**■CRT SOCKET PW BOARD ASS'Y
(SGF-3001A-M2)**

Refer to PARTS LIST in page 39 for this P.W. board.

**■FRONT CONTROL PW BOARD ASS'Y
(SGF-4001A-M2)**

Refer to PARTS LIST in page 39 for this P.W. board.

**■AV SELECTOR PW BOARD ASS'Y
(SGF-8009A-M2)**

Refer to PARTS LIST in page 40 for this P.W. board.

**■FRONT JACK PW BOARD ASS'Y
(SGF-8305A-M2)**

Refer to PARTS LIST in page 41 for this P.W. board.

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PRINTED WIRING BOARD PARTS LIST

■ MAIN PW BOARD ASS'Y (SGF-1003A-M2)

△ Symbol No.	Part No.	Part Name	Description
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VARIABLE RESISTOR

R1579	QVP0067-203Z	V R(SIDEPIN CORRECT)	20kΩ
R1581	QVP0067-502Z	V R(H.WIDTH)	5kΩ

RESISTOR

R1003-04	NRSA02J-101X	MG R	100Ω 1/10W J
R1005	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1006	NRSA02J-223X	MG R	22kΩ 1/10W J
R1101	NRSA02J-820X	MG R	82Ω 1/10W J
R1102	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1103	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1104	QRE121J-331Y	C R	33Ω 1/2W J
R1105	NRSA02J-100X	MG R	10Ω 1/10W J
R1106	NRSA02J-390X	MG R	39Ω 1/10W J
R1108	NRSA02J-183X	MG R	18kΩ 1/10W J
R1110	QRL029J-330	OM R	33Ω 2W J
R1131	NRSA02J-181X	MG R	180Ω 1/10W J
R1132-33	NRSA02J-101X	MG R	100Ω 1/10W J
R1134	NRSA02J-152X	MG R	1.5kΩ 1/10W J
R1135	NRSA02J-561X	MG R	56Ω 1/10W J
R1136	NRSA02J-122X	MG R	1.2kΩ 1/10W J
R1137	NRSA02J-471X	MG R	470Ω 1/10W J
R1139	NRSA02J-681X	MG R	68Ω 1/10W J
R1161-62	NRSA02J-102X	MG R	1kΩ 1/10W J
R1163	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1164	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1201	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1208	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1209	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1210	NRSA02J-821X	MG R	820Ω 1/10W J
R1211	NRSA02J-683X	MG R	68kΩ 1/10W J
R1212	NRSA02J-224X	MG R	220kΩ 1/10W J
R1215	NRSA02J-471X	MG R	470Ω 1/10W J
R1216	NRSA02J-681X	MG R	68Ω 1/10W J
R1217	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1225	NRSA02J-681X	MG R	68Ω 1/10W J
R1231	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1232	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1233	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1236	NRSA02J-471X	MG R	470Ω 1/10W J
R1237	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1238	NRSA02J-471X	MG R	470Ω 1/10W J
R1239	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1301	NRSA02J-393X	MG R	39Ω 1/10W J
R1302	NRSA02J-183X	MG R	18kΩ 1/10W J
R1311-12	NRSA02J-473X	MG R	47kΩ 1/10W J
R1313	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1314	NRSA02J-680X	MG R	68Ω 1/10W J
R1421	NRSA02J-472X	MG R	4.7kΩ 1/10W J
R1422	QRE121J-391Y	C R	390Ω 1/2W J
R1423	QRL029J-1R2	MF R	1.2Ω 2W J
R1424	QRE121J-102Y	C R	1kΩ 1/2W J
R1425	NRSA02J-683X	MG R	68Ω 1/10W J
R1427	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1428	NRSA02J-333X	MG R	33Ω 1/10W J
R1429	NRSA02J-223X	MG R	22kΩ 1/10W J
R1430	NRSA02J-102X	MG R	1kΩ 1/10W J
R1501	NRSA02J-361X	MG R	36Ω 1/10W J
R1502	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1504	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1505	NRSA02J-822X	MG R	8.2kΩ 1/10W J
R1506	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1507	NRSA02J-563X	MG R	56kΩ 1/10W J
R1511	NRSA02J-391X	MG R	39Ω 1/10W J
R1521	NRSA02J-391X	MG R	39Ω 1/10W J
R1522	NRSA02J-271X	MG R	270Ω 1/10W J
R1523	QRE121J-103Y	C R	10kΩ 1/2W J

△ Symbol No.	Part No.	Part Name	Description
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RESISTOR

R1524	QRG029J-182	OM R	1.8kΩ 2W J
R1525	QRG029J-152	OM R	1.5kΩ 2W J
R1531	QRE121J-220Y	C R	22Ω 1/2W J
R1532	QRE121J-681Y	C R	680Ω 1/2W J
R1533	QRL039J-103	OM R	10kΩ 3W J
△ R1541	QRK129J-150	C R	15Ω 1/2W J
R1542	QRX016J-1R2	MF R	1.2Ω 1W J
△ R1544	QRZ9017-4R7	F R	4.7Ω 1/4W J
R1545	QRE121J-332Y	C R	3.3kΩ 1/2W J
R1547	QRE121J-154Y	C R	150kΩ 1/2W J
R1548	QRE121J-184Y	C R	180kΩ 1/2W J
△ R1556	NRVA02D-752X	MF R	7.5kΩ 1/10W D
△ R1557	NRVA02D-242X	MF R	2.4kΩ 1/10W D
R1558	NRSA02J-333X	MG R	33Ω 1/10W J
R1559	NRSA02J-123X	MG R	12kΩ 1/10W J
R1560	NRSA02J-273X	MG R	27kΩ 1/10W J
R1561	NRSA02J-103X	MG R	10kΩ 1/10W J
R1572	NRSA02J-683X	MG R	68kΩ 1/10W J
R1573	NRSA02J-153X	MG R	15kΩ 1/10W J
R1574	NRSA02J-184X	MG R	180kΩ 1/10W J
R1575	NRSA02J-274X	MG R	270kΩ 1/10W J
R1576	NRSA02J-123X	MG R	12kΩ 1/10W J
R1577	NRSA02J-102X	MG R	1kΩ 1/10W J
R1578	NRSA02J-473X	MG R	47kΩ 1/10W J
R1580	NRSA02J-103X	MG R	10kΩ 1/10W J
R1582	NRSA02J-104X	MG R	100kΩ 1/10W J
R1583	NRSA02J-561X	MG R	56Ω 1/10W J
R1584	NRSA02J-182X	MG R	1.8kΩ 1/10W J
R1585	NRSA02J-332X	MG R	3.3kΩ 1/10W J
R1586	QRE121J-472Y	C R	4.7kΩ 1/2W J
R1587	NRSA02J-392X	MG R	3.9kΩ 1/10W J
R1588	QRL039J-100	OM R	10Ω 3W J
R1592	QRE121J-270Y	C R	27Ω 1/2W J
R1601	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1602	NRSA02J-221X	MG R	22Ω 1/10W J
R1603	NRSA02J-562X	MG R	5.6kΩ 1/10W J
R1604	NRSA02J-221X	MG R	22Ω 1/10W J
R1605	QRL039J-2R7	MF R	2.7Ω 3W J
R1606-07	NRSA02J-223X	MG R	22kΩ 1/10W J
R1611	NRSA02J-333X	MG R	33Ω 1/10W J
R1612	NRSA02J-223X	MG R	22kΩ 1/10W J
R1613-14	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1615-16	NRSA02J-271X	MG R	27Ω 1/10W J
R1617	NRSA02J-473X	MG R	47kΩ 1/10W J
R1701	NRSA02J-102X	MG R	1kΩ 1/10W J
R1704	NRSA02J-OROX	MG R	0.0Ω 1/10W J
R1705	NRSA02J-103X	MG R	10kΩ 1/10W J
R1706	NRSA02J-102X	MG R	1kΩ 1/10W J
R1710	NRSA02J-331X	MG R	330Ω 1/10W J
R1711	NRSA02J-223X	MG R	22kΩ 1/10W J
R1713	NRSA02J-103X	MG R	10kΩ 1/10W J
R1714	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1715	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R1716	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1717	NRSA02J-471X	MG R	470Ω 1/10W J
R1718	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1719	NRSA02J-471X	MG R	470Ω 1/10W J
R1720	NRSA02J-222X	MG R	2.2kΩ 1/10W J
R1721	NRSA02J-471X	MG R	470Ω 1/10W J
R1724	NRSA02J-102X	MG R	1kΩ 1/10W J
R1725	NRSA02J-104X	MG R	100kΩ 1/10W J
R1728-29	NRSA02J-272X	MG R	2.7kΩ 1/10W J
R1730-31	NRSA02J-101X	MG R	100Ω 1/10W J
R1732	NRSA02J-224X	MG R	220kΩ 1/10W J
R1733-34	NRSA02J-682X	MG R	6.8kΩ 1/10W J
R1735	NRSA02J-103X	MG R	10kΩ 1/10W J
R1736	NRSA02J-102X	MG R	1kΩ 1/10W J

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△	Symbol No.	Part No.	Part Name	Description	△	Symbol No.	Part No.	Part Name	Description
RESISTOR									
	R1739	NRSA02J-473X	MG R	47kΩ 1/10W J		C1106	NDC21HJ-680X	C CAP.	68pF 50V J
	R1741	NRSA02J-223X	MG R	22kΩ 1/10W J		C1107	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1742	NRSA02J-822X	MG R	8.2kΩ 1/10W J		C1108	QETN1CM-107Z	E CAP.	100μF 16V M
	R1743	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1110	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1744	NRSA02J-103X	MG R	10kΩ 1/10W J		C1111	NCB21HK-222X	C CAP.	2200pF 50V K
	R1745	NRSA02J-473X	MG R	47kΩ 1/10W J		C1113	NDC21HJ-5R0X	C CAP.	5.0pF 50V J
	R1746	NRSA02J-103X	MG R	10kΩ 1/10W J		C1131	QFV71HJ-154Z	MF CAP.	0.15μF 50V J
	R1747	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1132	QFN31HJ-152Z	M CAP.	1500pF 50V J
	R1756-57	NRSA02J-682X	MG R	6.8kΩ 1/10W J		C1133	QETN1HM-474Z	E CAP.	0.47μF 50V M
	R1759	NRSA02J-102X	MG R	1kΩ 1/10W J		C1134	NCB21HK-223X	C CAP.	0.022μF 50V K
	R1772	NRSA02J-102X	MG R	1kΩ 1/10W J		C1135	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1773	NRSA02J-121X	MG R	120Ω 1/10W J		C1137	QETN1EM-476Z	E CAP.	47μF 25V M
	R1791-95	NRSA02J-561X	MG R	560Ω 1/10W J		C1161	QETN1CM-227Z	E CAP.	220μF 16V M
	R1801-03	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1162	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1804-06	NRSA02J-101X	MG R	100Ω 1/10W J		C1163	NDC21HJ-220X	C CAP.	22pF 50V J
△	R1901	QRF074K-R47	UNF R	0.47Ω 7W K		C1164-65	NDC21HJ-470X	C CAP.	47pF 50V J
	R1902	QRE121J-822Y	C R	8.2kΩ 1/2W J		C1166	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1903	NRSA02J-681X	MG R	680Ω 1/10W J		C1168-70	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1904-05	QRT029J-R22	MF R	0.22Ω 2W J		C1171	NCB21HK-222X	C CAP.	2200pF 50V K
	R1906	QRE121J-822Y	C R	8.2kΩ 1/2W J		C1205	NCB21HK-104X	CHIP CAP.	0.1μF 50V M
	R1907-08	QLR039J-393	OM R	39kΩ 3W J		C1206	QETN1HM-105Z	E CAP.	1μF 50V K
	R1909	QRE121J-332Y	C R	3.3kΩ 1/2W J		C1207	QETN1HM-106Z	E CAP.	10μF 50V M
	R1912-13	QRE121J-333Y	C R	33kΩ 1/2W J		C1225	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1914	QRE121J-2R2Y	C R	2.2Ω 1/2W J		C1226	NDC21HJ-681X	C CAP.	680pF 50V J
	R1915	NRSA02J-392X	MG R	3.9kΩ 1/10W J		C1228	NCB21HK-104X	CHIP CAP.	0.1μF 50V K
	R1916	NRSA02J-392X	MG R	3.9kΩ 1/10W J		C1231	QETN1EM-476Z	E CAP.	47μF 25V M
	R1917	NRSA02J-103X	MG R	10kΩ 1/10W J		C1232	QETN1HM-106Z	E CAP.	10μF 50V M
	R1918	NRSA02J-102X	MG R	1kΩ 1/10W J		C1233	QETN1EM-476Z	E CAP.	47μF 25V M
	R1920	NRSA02J-103X	MG R	10kΩ 1/10W J		C1234-35	QETN1HM-105Z	E CAP.	1μF 50V M
	R1924	QRG01GJ-221	OM R	220Ω 1W J		C1301	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1925	NRSA02J-103X	MG R	10kΩ 1/10W J		C1302	NDC21HJ-100X	C CAP.	10pF 50V J
	R1926	QRT029J-R82	MF R	0.82Ω 2W J		C1303	NCB21HK-223X	C CAP.	0.022μF 50V K
	R1928	NRSA02J-682X	MG R	6.8kΩ 1/10W J		C1304	QETN1HM-474Z	E CAP.	0.47μF 50V M
	R1931	NRSA02J-123X	MG R	12kΩ 1/10W J		C1305	QETN1CM-107Z	E CAP.	100μF 16V M
	R1933	NRSA02J-123X	MG R	12kΩ 1/10W J		C1308	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1934	NRSA02J-104X	MG R	100kΩ 1/10W J		C1401	QETN1HM-225Z	E CAP.	2.2μF 50V M
	R1936	QRE121J-222Y	C R	2.2kΩ 1/2W J		C1402	QBHC1CK-225Z	TAN CAP.	2.2μF 16V K
	R1940	NRSA02J-104X	MG R	100kΩ 1/10W J		C1403	NCB21HK-102X	C CAP.	1000pF 50V K
	R1941	NRSA02J-102X	MG R	1kΩ 1/10W J		C1421	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1942	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1424	QETN1VM-107Z	E CAP.	100μF 35V M
	R1943	NRSA02J-OR0X	MG R	0.0Ω 1/10W J		C1425	QETN1VM-477Z	E CAP.	470μF 35V M
	R1944	NRSA02J-393X	MG R	39kΩ 1/10W J		C1426	QFLC2AK-563Z	M CAP.	0.056μF 100V K
△	R1945-46	NRSA02J-102X	MG R	1kΩ 1/10W J		C1427	QETM1EM-228	E CAP.	2200pF 25V M
	R1947	NRSA02J-472X	MG R	4.7kΩ 1/10W J		C1428	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
	R1948	NRSA02J-222X	MG R	2.2kΩ 1/10W J		C1429	QFV71HJ-224Z	MF CAP.	0.22μF 50V J
	R1949	NRSA02J-104X	MG R	100kΩ 1/10W J		C1501	QETN1CM-227Z	E CAP.	220μF 16V M
	R1951	QRT029J-1R2	MF R	1.2Ω 2W J		C1502	QETN1HM-106Z	E CAP.	10μF 50V M
	R1952	QRT029J-1R0	MF R	1.0Ω 2W J		C1503	NCB21HK-103X	C CAP.	0.01μF 50V K
	R1954	QRE121J-272Y	C R	2.7kΩ 1/2W J		C1505	QETN1HM-106Z	E CAP.	10μF 50V M
	R1955	QRE121J-473Y	C R	47kΩ 1/2W J		C1511	QETN1EM-476Z	E CAP.	47μF 25V M
	R1956	NRSA02J-223X	MG R	22kΩ 1/10W J		C1521	QCB32HK-151Z	C CAP.	150pF 500V K
	R1961	QRJ146J-3R3X	C R	3.3Ω 1/4W J		C1522	QCB32HK-331Z	C CAP.	330pF 500V K
	R1962	QLR029J-472	OM R	4.7kΩ 2W J		C1523	QEHR2CM-105Z	E CAP.	1μF 16V M
	R1963	NRSA02J-103X	MG R	10kΩ 1/10W J		△ C1531	QFZ0196-402	MPP CAP.	4000pF 1.5KVH ±3%
	R1966	NRSA02J-223X	MG R	22kΩ 1/10W J		△ C1532	QFZ0198-133	MPP CAP.	0.13F1.5KVH ±3%
	R1967	QRE121J-683Y	C R	68kΩ 1/2W J		△ C1533	QFP32GJ-223	PP CAP.	0.022μF 400V J
△	R1998	QRZ9041-275	C R	2.7M 1/2W K		C1534	QEHR2EM-225Z	E CAP.	2.2μF 250V M
△	R1999	QRE121J-121Y	C R	120Ω 1/2W J		△ C1535	QFZ0197-564	MPP CAP.	0.56μF 250V J
CAPACITOR									
	C1001	QETN1HM-475Z	E CAP.	4.7μF 50V M		C1536	QCB32HK-561Z	C CAP.	560pF 500V K
	C1004	QETN1CM-227Z	E CAP.	2200pF 16V M		C1538	QE20420-107	E CAP.	100μF 160V M
	C1005	QETN1EM-476Z	E CAP.	47μF 25V M		C1541	QETN2EM-226Z	E CAP.	22μF 250V M
	C1006	NCB21HK-103X	C CAP.	0.01μF 50V K		C1542	QETN1VM-108	E CAP.	1000μF 35V M
	C1007	QETN1HM-106Z	E CAP.	10μF 50V M		C1544	QETN1VM-107Z	E CAP.	100μF 35V M
	C1011	NCB21HK-103X	C CAP.	0.01μF 50V K		C1545	QFN32AJ-472Z	M CAP.	4700pF 100V J
	C1101	QFV71HJ-104Z	MF CAP.	0.1μF 50V J		C1546	QFV71HJ-684Z	MF CAP.	0.68μF 50V J
	C1102	NCB21HK-103X	C CAP.	0.01μF 50V K		C1547	QCB32HK-561Z	C CAP.	560pF 500V K
	C1103	QETN1CM-107Z	E CAP.	100μF 16V M		C1548	QCB32HK-102Z	C CAP.	1000pF 500V K
	C1104-05	NCB21HK-103X	C CAP.	0.01μF 50V K		C1551	QETN1HM-106Z	E CAP.	10μF 50V M
						C1552	QFLC1HJ-223Z	M CAP.	0.022μF 50V J
						C1553	QFLC1HJ-683Z	M CAP.	0.068μF 50V J
						C1554	QETN1AM-477Z	E CAP.	470μF 10V M
						C1557	QFLC1HJ-683Z	M CAP.	0.068μF 50V J
						C1577	QETN1VM-476Z	E CAP.	47μF 35V M

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△	Symbol No.	Part No.	Part Name	Description		
CAPACITOR						
C1578-79	QEM61HK-475Z	E CAP.	4.7μF	50V	K	
C1580	NDC21HJ-330X	C CAP.	33pF	50V	J	
C1602	QENC1HM-474Z	BP E CAP.	0.47μF	50V	M	
C1604	QENC1HM-474Z	BP E CAP.	0.47μF	50V	M	
C1605	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1606	QETN1EM-108Z	E CAP.	1000μF	25V	M	
C1607	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
C1608-09	QETN1CM-477Z	E CAP.	470μF	16V	M	
C1613	QETN1EM-476Z	E CAP.	47μF	25V	M	
C1614	QETN1HM-106Z	E CAP.	10μF	50V	M	
C1615	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
C1701	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1703	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1704	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1705	NCB21HJ-181X	C CAP.	180pF	50V	J	
C1706	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
C1708	QETN1HM-105Z	E CAP.	1μF	50V	M	
C1709	NDC21HJ-221X	C CAP.	220pF	50V	J	
C1710-11	NDC21HJ-390X	C CAP.	39pF	50V	J	
C1712	NDC21HJ-270X	C CAP.	37pF	50V	J	
C1714	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1715	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1716	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1717-18	NDC21HJ-330X	C CAP.	33pF	50V	J	
C1719	NDC21HJ-471X	C CAP.	470pF	50V	J	
C1720-21	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1724	NDC21HJ-471X	C CAP.	470pF	50V	J	
C1736	NCB21HK-102X	C CAP.	1000pF	50V	K	
C1741	QFN31HJ-102Z	M CAP.	1000pF	50V	J	
C1743	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1744	NDC21HJ-221X	C CAP.	220pF	50V	J	
C1771	QETN1EM-476Z	E CAP.	47μF	25V	M	
C1772	NCB21HK-103X	C CAP.	0.01μF	50V	K	
C1773	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1774	QETN1CM-227Z	E CAP.	220μF	16V	M	
C1784	QETN1HM-336Z	E CAP.	33μF	50V	M	
C1801-03	QETN1HM-474Z	E CAP.	0.47μF	50V	M	
△ C1901	QFZ9040-104	MF CAP.	0.1μFAC275V	M		
△ C1902	QFZ9040-473	MF CAP.	0.047μFAC275V	M		
△ C1903	QFZ9040-104	MF CAP.	0.1μFAC275V	M		
△ C1904	QCZ9052-102	C CAP.	1000pFAC125V	M		
△ C1906	QCZ9078-102	C CAP.	1000pFAC250V	M		
△ C1907	QCZ9078-102	C CAP.	1000pFAC250V	M		
△ C1908	QCZ9078-102	C CAP.	1000pFAC250V	M		
△ C1910	QEZ0429-477	E CAP.	470μF	200V	M	
C1911	QETN1EM-108Z	E CAP.	1000μF	25V	M	
C1912	QFN31HJ-102Z	M CAP.	1000pF	50V	J	
C1913	QCZ0131-102	C CAP.	1000pF	2kV	K	
C1914	QCZ0325-391	C CAP.	390pF	2kV	K	
C1915	QFP32GJ-223	PP CAP.	0.022μF	400V	J	
C1916	QCZ0131-332	C CAP.	3300pF	2kV	K	
C1918	NCB21HK-102X	C CAP.	1000pF	50V	K	
C1919	NCB21HK-222X	C CAP.	2200pF	50V	K	
C1920	QFLC1HJ-823Z	M CAP.	0.082μF	50V	J	
C1921-23	QCZ0132-152Z	C CAP.	1500pF	500V	K	
C1924	QEZ0420-107	E CAP.	100μF	160V	M	
C1925	QCZ0132-152Z	C CAP.	1500pF	500V	K	
C1926	QEHQ1VM-108	E CAP.	1000μF	35V	M	
C1927	QEHR1CM-227Z	E CAP.	220μF	16V	M	
C1928	QETN1EM-108Z	E CAP.	1000μF	25V	M	
C1931	QETN1EM-476Z	E CAP.	47μF	25V	M	
C1932	QEHR1VM-476Z	E CAP.	47μF	35V	M	
C1934	NCB21HK-102X	C CAP.	1000pF	50V	K	
C1935	QETN1HM-107Z	E CAP.	100μF	50V	M	
C1937	QETN2CM-106Z	E CAP.	10μF	160V	M	
C1938	NDC21HJ-102X	C CAP.	1000pF	50V	J	
C1951	QETN1CM-107Z	E CAP.	100μF	16V	M	
C1952	QETN1HM-476Z	E CAP.	47μF	50V	M	
C1954	QEHR1HM-226Z	E CAP.	22μF	50V	M	
△ C1990	QCZ9074-103	C CAP.	0.01μFAC250V	M		
△ C1991	QCZ9074-103	C CAP.	0.01μFAC250V	M		

△	Symbol No.	Part No.	Part Name	Description		
TRANSFORMER						
T1131	QQR0907-001	IFT				
T1161	CEL7003-109J3	S.I.F. TRANSF.				
T1521	CE42034-002	H.DRIVE TRANSF.				
T1522	QHQ0062-001	H.V. TRANSF.				
△ T1901	QQS0063-001	SWITCH. TRANSF.				
COIL						
L1102	QLLZ014-R22	PEAKING COIL	0.22μH			
L1104	QLLZ9BJ-680Z	PEAKING COIL	68μH			
L1131	QLLZ9BJ-220Z	PEAKING COIL	22μH			
L1161	QLLZ9BJ-680Z	PEAKING COIL	68μH			
L1162	QLLZ9BJ-220Z	PEAKING COIL	22μH			
L1201	QLLZ44K-270Z	PEAKING COIL	27μH			
△ L1531	QQR1027-003	LIN. COIL				
L1532	QLLZ027-821	CHOKE COIL				
△ L1591	QLLZ026-460	HEATER CHOKE	46μH			
L1701	QLLZ9BJ-4R7Z	PEAKING COIL	4.7μH			
L1702	QLLZ44J-100Z	PEAKING COIL	10μH			
L1771	QLLZ9BJ-4R7Z	PEAKING COIL	4.7μH			
L1921-22	QLLZ42AK-820Z	CHOKE COIL				
DIODE						
D1001	MTZJ33A-T2	ZENER DIODE				
D1231-34	1SS133-T2	SI.DIODE				
D1421	1N4003-T2	SI.DIODE				
D1422	MTZJ75-T2	ZENER DIODE				
△ D1511	MTZJ3..3A-T2	ZENER DIODE				
△ D1531	RH3G-F1	SI.DIODE				
△ D1532	RU3AM-LFC4	SI.DIODE				
△ D1533	RGP10J-5025-T3	SI.DIODE				
D1541	RH15-T3	SI.DIODE				
D1542	RGP10J-5025-T3	SI.DIODE				
D1544	1SS131-T2	SI.DIODE				
D1546	1SR124-400A-T2	SI.DIODE				
D1549	MTZJ9.1B-T2	ZENER DIODE				
△ D1551	MA4068N/Z1/-T2	ZENER DIODE				
D1560-61	1SS133-T2	SI.DIODE				
D1601-02	1SS133-T2	SI.DIODE				
D1609	1SS133-T2	SI.DIODE				
D1702-04	1SS133-T2	SI.DIODE				
D1741-42	1SS133-T2	SI.DIODE				
D1771-72	1SS133-T2	SI.DIODE				
D1801	MTZJ5..1B-T2	ZENER DIODE				
D1804	1SS133-T2	SI.DIODE				
△ D1901	D35BA60-S1	BRIDGE DIODE				
△ D1902	RGP10J-5025-T3	SI.DIODE				
D1903-04	1SS133-T2	SI.DIODE				
D1905	EG1A-T3	SI.DIODE				
D1909	MTZJ15A-T2	ZENER DIODE				
D1910	RGP10J-5025-T3	SI.DIODE				
D1911	1SS133-T2	SI.DIODE				
D1912	MTZJ15A-T2	ZENER DIODE				
D1913-14	RGP10J-5025-T3	SI.DIODE				
D1916	RGP10J-5025-T3	SI.DIODE				
D1918	MTZJ15A-T2	ZENER DIODE				
D1921	RU30A-F1	SI.DIODE				
D1922	RU3YX-LFC4	SI.DIODE				
D1923	ECP10DL-6006-F1	SI.DIODE				
D1925	RGP10J-5025-T3	SI.DIODE				
D1926-28	1SS133-T2	SI.DIODE				
D1931	1SS133-T2	SI.DIODE				
D1933	1SS133-T2	SI.DIODE				
D1942	MTZJ6..8C-T2	ZENER DIODE				
D1951	MTZJ7..5S-T2	ZENER DIODE				
D1951	MTZJ7..5A-T2	ZENER DIODE				
TRANSISTOR						
Q1001	DTC124EKA-X	DIGI. TRANSISTOR				
Q1101	2SC5083/L-P/-T	SI.TRANSISTOR				
Q1131-32	2SC2412K/QR/-X	SI.TRANSISTOR				
Q1161	2SC2412K/QR/-X	SI.TRANSISTOR				

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△	Symbol No.	Part No.	Part Name	Description
TRANSISTOR				
	Q1203	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1204-05	2SA1037AK/QR/-X	SI. TRANSISTOR	
	Q1231-32	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1301	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1521	2SC4212/Z1/	SI. TRANSISTOR	
△	Q1531	2SD2539-LB	SI. TRANSISTOR	H. OUT
	Q1541	2SA1037AK/QR/-X	SI. TRANSISTOR	
△	Q1542	2SC2785/JH/-T	SI. TRANSISTOR	
	Q1551	2SC2412K/QR/-X	SI. TRANSISTOR	
△	Q1552	2SA1037AK/QR/-X	SI. TRANSISTOR	
△	Q1553	2SD1408/Y/-LB	SI. TRANSISTOR	
	Q1601	DTC124EKA-X	DIGI. TRANSISTOR	
	Q1602	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1603	DTC124EKA-X	DIGI. TRANSISTOR	
	Q1604	2SA1037AK/QR/-X	SI. TRANSISTOR	
	Q1701	DTC124EKA-X	DIGI. TRANSISTOR	
	Q1741	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1742	DTC124EKA-X	DIGI. TRANSISTOR	
	Q1743	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1911	2SA1037AK/QR/-X	SI. TRANSISTOR	
	Q1912	2SD2088-T	SI. TRANSISTOR	
	Q1921	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1922	2SD1383K/AB/-X	SI. TRANSISTOR	
	Q1923	2SA1020/Y/-T	SI. TRANSISTOR	
	Q1924	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1925	2SA949/Y/Z1-T	SI. TRANSISTOR	
	Q1926	2SC2240/GL/-T	SI. TRANSISTOR	
	Q1927-28	DTC124EKA-X	DIGI. TRANSISTOR	
	Q1942	2SC2412K/QR/-X	SI. TRANSISTOR	
	Q1943	2SC2240/GL/-T	SI. TRANSISTOR	
	Q1944	DTC124EKA-X	DIGI. TRANSISTOR	
	Q1951	2SA949/Y/Z1-T	SI. TRANSISTOR	
IC				
	IC1001	AN7805F	I.C. (MONO-ANA)	
	IC1101	AN7809F	I.C. (MONO-ANA)	
	IC1201	TA1242N	I.C. (MONO-ANA)	
△	IC1421	LA7832	I.C. (MONO-ANA)	
△	IC1601	LA4485	I.C. (MONO-ANA)	
	IC1701	MN1876478JE3	I.C. (MICRO-COMP)	
	IC1702	AT24C02-32150U	I.C.	(SERVICE)
	IC1703	S-80840ALY-T	I.C. (MONO-ANA)	
	IC1771	AN77L05-T	I.C. (MONO-ANA)	
△	IC1901	STR-F6626/F7	I.C. (HYBRID)	
△	IC1941	SE135N	I.C. (HYBRID)	
OTHERS				
	CF1131	QAX0339-001	CERAMIC FILTER	
	CF1161	SFSH4.5MBC	CERAMIC FILTER	
	CF1501	CSB503F30-T2	CER. RESONATOR	
	CF1701	FCR12.0M2S	CER. RESONATOR	
△	CN11PW	QMPD270-200-K2	POWER CORD	
△	CP1902	ICP-N75-Y	I.C. PROTECT	
△	F1901	QMF0007-5R0J1	FUSE	
	K1421	QQR0582-001Z	BEADS CORE	5.0A
	K1703	QQR0582-001Z	BEADS CORE	
	K1901-03	QQR0621-002Z	BEADS CORE	
	K1905-06	QQR0621-002Z	BEADS CORE	
	K1921-24	QQR0621-002Z	BEADS CORE	
△	LF1901	QQR1085-001	LINE FILTER	
△	LF1902	QQR0532-003	LINE FILTER	
△	PC1901	TLP621(B)	I.C. (PH.COUPLER)	
△	PC1902	TLP621(B)	I.C. (PH.COUPLER)	
△	RY1901	QSK0083-001	RELAY	
△	RY1921	QSK0083-001	RELAY	
	S1421	QSL4A13-C02	LEVER SWITCH	(V.CENTER SW)
	SF1101	QAX0324-002	SAW FILTER	
△	TH1501	CEKP004-002	P.THERMISTOR	
△	TH1901	CEKP007-002	P.THERMISTOR	
△	TU1001	QAU0176-001	TUNER	
△	VA1901	ERZV10V621CS	VARISTOR	
	X1301	QAX0310-001Z	CRYSTAL	

**■CRT SOCKET PW BOARD ASS'Y
(SGF-3001A-M2)**

Refer to PARTS LIST in page 39 for this P.W. board.

**■FRONT CONTROL PW BOARD ASS'Y
(SGF-4001A-M2)**

Refer to PARTS LIST in page 39 for this P.W. board.

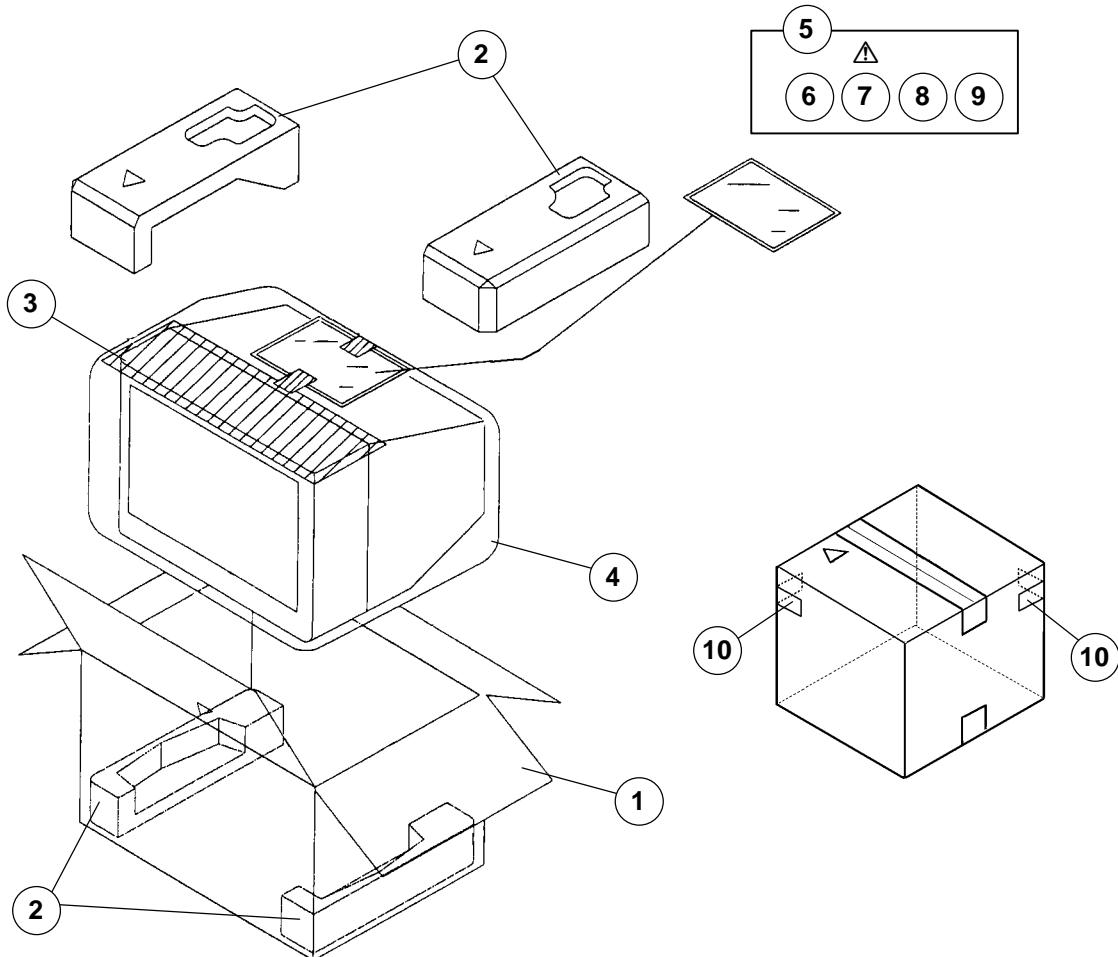
**■AV SELECTOR PW BOARD ASS'Y
(SGF-8009A-M2)**

Refer to PARTS LIST in page 40 for this P.W. board.

**■FRONT JACK PW BOARD ASS'Y
(SGF-8305A-M2)**

Refer to PARTS LIST in page 41 for this P.W. board.

PACKING



PACKING PARTS LIST

AV-32220/G / AV-32220/H / AV-32220/M

Ref. No.	Part No.	Part Name	Description
1	LC10181-022A-A	PACKING CASE	
2	LC10176-002B-A	CUSHION ASSY	4pcs in 1set
3	CP30055-A02-A	TOP COVER	
4	CP30056-004-A	POLY BAG	
5	QPA02503505	POLY BAG	
6	RM-C306-1A	REMOCON UNIT	
7	LCT0949-001A-A	INST.BOOK	
8	BT-52004-1Q	WARRANTY CARD	
9	BT-51020-1Q	REGISTER CARD	
10	CM36616-001-A	CORNER LABEL	

